

AN
INTRODUCTION
TO
ECONOMIC THEORY

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By

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PREFACE TO THE FIRST EDITION

It is in the hope of providing an introduction to the main aspects of economic theory for the university students and the general readers that the book has been written. After the first war, countless monographs and technical articles in the various journals have extended the bounds of the economic science. This vast fund of research has not been integrated into the main body of the theory. The usual textbooks deal only with the orthodox economic principles. Throughout this book, our purpose has been to incorporate these extensions into the main body of the economic theory, merging the newer with the older doctrines.

Such a task, we are painfully aware, bristles with difficulties. But we have always tried to avoid the highly controversial issues. In our opinion the treatment of such controversial topics in an introductory book like this will only lead to confusion among those for whom it is intended. So we have tried only to consolidate the older theories with the recent advances, without complicating the study by the introduction of technical controversies over the disputed points. We have not attempted to advocate or attack any particular school of economics. Our aim has always been to discuss in impartial terms the main principles of economics and to make the science of economics comprehensive, and at the same time understandable. We do not claim to have mastered completely the researches in all branches of economic theory; neither do we claim any originality for our treatment. Wherever possible, we have acknowledged our debts to the various authors in the foot notes. We should, however, like to emphasise our special indebtedness to the classical works of Marshall and Taussig, on which generations of Indian students have been brought up.

Our thanks are due to Messrs. Profulla Nath Mukherjee, M.A., B.L., and Sailendra Nath Mukherjee, B.A., for reading the proofs. We are also grateful to Mr. S. C. Ganguli, the proprietor of the Eastland Press for his great and unfailing patience.

PREFACE TO THE EIGHTH EDITION

In this edition, many chapters have been entirely re-written, esp., Chapters 1, 5, 13, 18, 20, 28, 33, 34, 37, 40 and 41. We have added four new Chapters on Monopoly and Combinations, Distribution of Income, and Cost of Production, and Socialism. Discussions on the Quantity theories, Gold Standard and Monetary Management have been revised in the light of modern ideas on the subject. We have also discussed the concept of full employment in a separate chapter.

S. N. S.

S. K. D.

Calcutta,
1947

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CHAPTER 1

DEFINITION AND OTHER ALLIED TOPICS

Definition of Economics. Economics is a study of the economic problems of the people living in a community. This is of course a statement of the obvious. What are "economic" problems? Is the problem whether to marry the girl selected by one's parents, or the girl of one's choice against the opposition of the parents an economic one? What about the problem of how to pass a loose evening? Is it an economic one? There are innumerable problems which face us at every step in life. Which one of them is economic, and which is not? Are there any special features marking out economic problems from non-economic ones? The problems which are economic in nature generally exhibit two characteristics. First, these arise from the fact that all of us feel wants. They include the most primitive physiological wants as well as the refined desires which arise as a consequence of our living in modern complex civilisation. These desires are persistent, and increasing. Economic problems are concerned with the satisfaction of wants. Another important aspect of the economic problems arises from the fact that the things or the resources in men, materials or time, which are capable of satisfying our wants are unfortunately limited or scarce. Here it should be noted that the word "scarcity" is used in a special sense. Mere limitation in supply does not make a thing scarce in the economic sense. A commodity becomes scarce only when its supply is insufficient to satisfy the aggregate demand for a commodity. On account of the scarcity of resources, men are found to be engaged in various types of activities with the ultimate aim of gratifying the desires. The problems that centre round such activities are to be regarded as economic problems. To take an example, water is an essential human need. Generally the satisfaction of this want does not constitute a problem. In places by the side of a flowing river, the supply of water is unlimited in relation to the demand. Hence the satisfaction of this want does not constitute a problem in those areas. But to a city-dweller, the supply of water is no longer unlimited. It has become scarce in relation to the huge demand created by the existence of a large population. Hence the problem of satisfying this want for water has become an economic one. Economics is, therefore, a study of "actions which make the satisfaction of wants possible."

Many classical writers defined the subject in another way. According to them economic activities are to be differentiated from other activities by the motive inspiring them. Economic activities are those which are guided mainly by the motive of self-interest as distinguished from other motives like religious devotion, philanthropy,

etc. Some among these writers interpreted their subject in such a way as to give rise to the idea that the economists were not concerned with the activities of ordinary men, but of some "economic man", a nasty person whose sole aim in life was the calculation of monetary loss or gain. This view has long been abandoned by the economists. We study the activities, not of some imaginary economic man, but of ordinary men and women working under the impulse of a variety of motives. In fact, the motive behind the actions is no longer of any concern to the economist. We are concerned with those human activities which are undertaken for the purpose of satisfying our limitless wants with the limited resources at our disposal.

Some writers defined economics as the science of wealth. Adam Smith, the father of modern economic theory, defined Economics as a subject which was concerned with "an enquiry into the nature and causes of Wealth of Nations." This definition gave rise to serious misconceptions, especially at the hands of Carlyle, Ruskin, and other literary writers of the 19th century. The popular meaning of wealth is riches or an abundance of money. So it was thought that economics was concerned only with the acquisition of riches or money. As such, it was regarded as a "dismal science". But these writers misconceived

the real scope of economic studies. In Economics is the science of wealth, the word "wealth" is used in a special sense. It refers, not to money, but

to those scarce goods and services which are used to satisfy the wants of the people. Economics studies the various ways of producing, exchanging and distributing these scarce goods and services in response to the wants of the people. Wealth is a means, not an end. We fix our attention on wealth because we want to study those human activities which centre round wealth. We are not concerned with wealth, but with human activities. The emphasis has, therefore, been shifted from wealth to human activities. Economics is still now regarded as the science of wealth. But it is "on the other, and more important side, a part of the study of man."

The original meaning of wealth was well-being or welfare. It was naturally argued that the purpose of our study is to further human welfare through an analysis of the activities centred round wealth. People desire wealth because it will promote their well-being or welfare. Since wealth usually refers to the material means of satisfying human wants, some writers have also defined economics as a study of the causes of material welfare.*

Another definition. The foregoing definition has been criticised in recent times by Prof. L. Robbins. According to him, the border line between material and non-material things is not always

*Cannan. *Wealth*. P. 17.

clearcut. There are many things which satisfy our wants and which are scarce in supply. But these are not material in any sense. "The services of the opera-dancer are wealth. Economics deals with the pricing of these services, equally with the pricing of the services of a cook."

Is economics a study of the causes of material welfare?

But these services are not "material" in any sense. Economics is, therefore, concerned not only with the "material" causes of welfare, but also with immaterial things. Prof. Robbins has also criticised the connection that is sought to be established between economics and welfare. According to him, many economic activities do not conduce to welfare. The activities concerning the manufacture and sale of alcoholic drinks are economic activities. These satisfy human wants, and are concerned with the production and distribution of scarce goods. But these activities do not promote human welfare on many occasions. Secondly, welfare cannot be quantitatively measured. Two persons may be paying the same price for a commodity. But we cannot conclude from this fact that they derive the same utility from the commodity, or that their welfare increases by the same amount. The first individual may be rich, while the second may be poor. Money is not a satisfactory measure of welfare. So it is not possible to equate the welfare of the different classes of people. Lastly, this type of "welfare" analysis implies a value judgment,—that welfare ought to be maximised. But economics is not concerned with ends. It should discuss what is, not what ought to be. It is neutral between different ends.

According to Prof. Robbins, the main concern of the economist is not with "material" means, nor with "welfare." "Economics is the science which studies human behaviour as a relationship between ends and scarce means which have alternate uses."* This definition starts from three basic postulates. First, men feel wants, and there is no limit to their wants. Second, the time and the means available to satisfy these wants are limited, or scarce.

Economics studies the implications of scarcity. Last, these scarce resources can be utilised for alternative purposes. We can make more butter or more guns. But we cannot have all we want of both. Our wants are unlimited, but life is short and nature is niggardly. Since the people cannot satisfy their wants with the scarce time and means, a problem then arises for everybody,—which wants to satisfy, and which to forego. Everywhere we turn, if we choose one thing we are forced to sacrifice other goods. Hence there arises a problem of choice,—or selecting the uses to which we shall put the scarce resources. In order to enable us to choose effectively, there must be some kind of pricing process. Values must be set upon the available resources so as to restrict their use to the most

* *Nature and Significance of Economic Science*, P. 15.

urgent purposes. This pricing process alone forms the subject matter of economics. The economist thus studies the implications of choice between different ends. But he is not concerned with the ends or the means. His subject is scarcity. The problem of economics is simply the problem of "economising".

Apart from the defects inherent in earlier definitions, the main reason for limiting the subject in this way lies in the fact that if the economists confine themselves to this purely pricing process they will be able to deduce valid scientific generalisations. Since economics is a science, it must remain neutral between different ends, and must study what is, rather than what ought to be. It must also be capable of yielding *a priori* certain results, containing scientific truths. If the economists venture from a study of the disposal of scarce goods, their labour will not yield results which are scientifically true, and capable of exact measurement. A true science seeks truth for its own sake, and studies what is about a subject, not what ought to be. Hence Prof. Robbins calls upon other economists not to forsake the true and scientific path, and not to spend their time on subjects remotely connected with the main theme. It remains to add the difference between the two types of definition. The first definition is concerned with a particular kind or department of human activities. The second focuses attention on a particular *aspect* of human activities,—activities undertaken under the influence of scarcity.

The economist is, therefore, forbidden to pass any judgment on any matter. He cannot "furnish a body of settled conclusions, immediately applicable to policy." His role is that of an expert who can predict correctly the consequences that are likely to follow particular lines of actions. He can state the implications of any change in our choice regarding the disposal of scarce resources. But he cannot judge the desirability of these actions or policies. He can contribute very little to the ultimate solutions of the practical problems of life. He cannot, for example, say that a particular case of state intervention is desirable or not. All that he can do is to point out the various implications of this policy.

The question then arises, is it desirable that economists should confine themselves to a contemplation of the pure pricing process? Should they remain secluded in the pursuit of truth for its own sake, disclaiming all intention to take part in the fashioning of policy? It is, of course, true that the study of the pricing process has yielded valuable results, and further development along these lines is also necessary if the economist is to play the part of an expert discussing the implications of different policies. One's

True scope of
economics.

desire for scientific rigour may lead one to
restrict the scope of the subject in this way.

But almost all economists (including Prof. Robbins) have trespassed over the frontier which divides scientific economics into a discussion of the ends themselves. Moreover, such a limitation of the subject

carries with it serious dangers. There is a fundamental distinction between the natural sciences and Economics. The student of Physics or Chemistry can study his subject solely with a view to arrive at the truth, leaving the question of the practical application of the results to others. But the economist studies his subject not only to know the truth for its own sake, but also to provide a technique for the solution of the great social problems. The study of economics began as a practical subject concerned with the improvement of the material conditions of the people. "When we watch the play of human motives that are ordinary,—that are sometimes mean and dismal and ignoble—our impulse is not the philosopher's impulse, knowledge for the sake of knowledge, but rather the physiologist's impulse,—knowledge for the healing that knowledge may help to bring."* Knowledge in economics is chiefly valuable in so far as it is "fruit-bearing" rather than "light-bearing". Prof. Robbins deplors that the borderlands of economics are the happy hunting ground of the charlatan and the quack. If that is so, they ought to be ousted from this position. And only the economists can and should oust them as they alone possess the necessary scientific training. Someone, and someone necessarily equipped with proper technique, should present before the public the alternative possibilities of practicable achievement. Nor are the ends and the means always readily distinguishable.

Is Economics a science? For a longtime there was some controversy over the question whether economics is a science. The dictionary meaning of the term, "science" is that it is a body of systematized knowledge concerning any particular department of nature, whether external or internal to man. It studies uniformities pervading a department of nature and tries to find out generalisations which we call laws. Physics is a science; it studies certain uniformities regarding the external universe. Psychology is a science

Meaning of the term "science".

which studies the uniformities of the mental world. Economics is a science in the same sense as physics and psychology are. It studies the uniformities which underlie human conduct in the ordinary business relations. It investigates the possibility of deducing generalisations as regards certain activities or behaviour of a group of human beings.

The natural scientists deal with quantities which can be definitely measured. They can conduct experiments, and verify their conclusions. Economics also deals with that part of man's actions which can be measured by the measuring rod of money. Like the chemists' balance, we have an external standard in economics for measuring human motives. And that measure is furnished by rupees, annas and pies. Of all social sciences, economics is thus the most exact, because none of them has got any external measure to make possible a definite quantitative measurement. But it should be noted that such measurement

* Pigou. *Economics of Welfare*.

of human motives can only be approximate. Human motives cannot always be accurately measured. Though the most perfect of all social sciences, economics is not as exact as the physical sciences, because it deals with human motives which are very complex. The measurement of human motives by money may at best be roughly approximate, but is never accurate; whereas the laws of physical sciences are capable of accurate quantitative measurement.

The claim of economics to be regarded as a science has been denied on the ground that the materials which form the basis of economic studies are not capable of yielding universally valid generalisations or laws. The physical sciences have developed a large body of laws possessing universal validity, and capable of quantitative measurement. But economics cannot claim to have discovered such laws of universal validity: Economists cannot also claim precision for their laws. As men have free will, what guarantee is there that they will behave similarly under similar circumstances? But even admitting that men

have free will it is possible to frame useful generalisations on three-fold grounds. First, all the experiences of a man do not come within the sphere of his choice. We cannot decide to feel pleased or sorry. Nor can one prevent oneself from getting satisfied if one goes on eating. Much of such uncontrollable experiences form the basis of economic laws. Secondly, some of our economic experiences are governed by laws of external nature beyond our control, *e.g.*, the law of Diminishing Returns. Thirdly, free will does not mean that men act unreasonably. Even if they do so, we are in a position to foretell the course of their activities by means of the mathematical law of probability. But on the whole, men behave reasonably. We usually buy a thing where it is cheap. Because of this, we can predict the future course of human activities, and frame general laws.

There is no doubt that economic prophecies are often found to be falsified by subsequent events. The reason for this must be sought, not in the unscientific nature of economic studies, but in our ignorance of the causes at work. The laws of biology or the meteorological forecasts are not always borne out by subsequent events. But no one would, on that ground, deny that biology or meteorology was not a science. The onset of a trade depression can often be predicted a much longer time in advance than the coming of a cyclone. The task of the economist is the same as that of the natural scientists,—to apply the processes of sustained and disinterested argument to the data of observation, and to attempt the determination of general laws of all events. Hence the claim of economics to be regarded as a science cannot be denied on the ground that economists lack precision and prophetic power.

Nature of Economic Laws: Every science has its laws. Economists have also formulated some laws. What is the nature of

these laws? The term "law" has got several meanings. It may mean a rule established in a community, permitting or prohibiting a course of action as the common law of England.

The different senses of the term "Law". Secondly, it may denote a rule of procedure as the laws of cricket. Thirdly, a law may mean an act passed by the legislature. Lastly, it may mean a statement of causal relationship between two groups of phenomena, *e.g.*, the laws of Physics.

An economic law is a law only in the last sense. It is a statement of tendencies; a statement that under certain conditions, we should expect a definite course of action from a group of human beings. An economic law affirms that if a particular cause exists, a definite result may be expected to follow. All scientific laws are laws in the same sense. If there is a combination of hydrogen and oxygen, other things being equal, we get water. So also in economics, other things being equal, if the price of a commodity rises, the demand for it will fall. If a law of chemistry be a natural law, an economic law is also a natural law in the same sense.

But the laws of economics are not as exact as the laws of natural sciences. The latter deal with atoms and matter which are constant units. But the economist deals with the activities or behaviour of men. A group of men will not always act or behave in a similar way in response to a particular cause. Hence any general statement about the course of their activities may not always hold good. Economic facts can be modified by human efforts. But a law of physics cannot be so modified. Hence an economic law is not as exact as a law of physics.

*"The laws of Economics are to be compared with the laws of tides rather than with the simple and exact law of gravitation."** Human nature is very complex; so the action of human beings is variable and uncertain, and consequently economic laws are inexact. The law of

Economic laws are not as exact as the physical laws.

gravitation states that other forces not interfering, two bodies will be attracted towards each other according to a certain ratio. This law of gravitation is so very exact that mathematicians can calculate beforehand the movement of the heavenly bodies; and the exact position of these bodies can be predicted many years beforehand. These calculations and predictions are seldom found to be wrong. Economics does not possess any law which is so much precise and exact.

Economic laws may, however, be compared with laws of tides. The laws of tides explain how there is a rise and fall of tides twice a day under the influence of the sun and the moon, how there are strong tides at new and full moon, etc. Thus the science of tides can predict at what time the tide will *probably* be the highest on any day at the

* Marshall. *Principles of Economics*. Page 32.

Howrah Bridge. It has to use the word '*probably*' because the tide may not come at the expected hour owing to many unforeseen circumstances. There may be a strong wind in the Bay of Bengal, which may make the tide at the Howrah Bridge quite different from what was expected. In human activities, too, there are many unforeseen circumstances, as a result of which the expected course of action may not happen in the regular way.

Economic Laws Essentially Hypothetical: "Economic laws" writes Seligman, "*are essentially hypothetical.*"* All economic laws contain the following qualifying clause "other things being equal", i.e., we assume that from a given set of facts, certain conclusions will follow, if no other change takes place in the meantime. But other things are not always equal and consequently in economics, definite conclusions cannot be predicted from a given set of facts.

How far are economic laws hypothetical? Economic laws are therefore described as hypothetical,—hypothetical because their truth and operation depend upon so many factors which are variable and imperfectly ascertainable. Take for instance, the law of Diminishing Utility. It states that with every increase in the stock of a commodity possessed by a person, the marginal utility of that commodity to that person diminishes. But the law cannot state exactly at what point utility will begin to diminish. It may happen that the utility may actually increase if the commodity suddenly becomes more fashionable.

But it does not follow that because an economic law is hypothetical, it is unreal or useless. The laws of all other sciences are also hypothetical. Every science assumes certain causes and draws certain generalisations from those causes, assuming further that nothing changes in the meantime. The action of the causes in question is supposed to be isolated and conclusions are drawn on the

But the laws of all sciences are, more or less, hypothetical. hypothesis that other causes are not present. In this sense all laws are hypothetical. In physics, it is stated that masses attract each other with a certain definite velocity. But in actual life, that may not always be the case. Bodies do not always fall to the ground, as expected under the law of gravitation. For they may be retarded by atmospheric pressure. Oxygen and hydrogen, when mixed together, will be turned into water under a particular pressure and temperature. If the pressure and the temperature are different, they may not form water. No one has argued on that ground that the law of gravitation or the laws of chemistry are unreal or useless. Owing to the complexity of forces at work, the expected result may not always materialise. Thus all scientific laws are hypothetical. The only difference is that the hypothetical element is specially prominent in economics. In physics, though there may be a complexity of forces at work, they can be definitely measured, and the result predicted. In

* Seligman. *Principles of Economics*. Page 26.

economics, many of the forces cannot be measured; hence no definite result can be predicted. Economic laws are, therefore, largely approximations.

We may, however, point out that all economic laws are not essentially hypothetical. There are some economic laws which may be regarded as true as the physical laws and there are others which are true like axioms. The law of Diminishing Returns is based fundamentally on causes which are external to man. The tendency to diminishing returns may be held in check for a time by inventions and by the application of scientific knowledge to agriculture, but diminishing returns must appear in the long run. So this law may be regarded as partaking of the nature of physical laws. Again there are some laws which are axiomatic and need no proof. For example, the law that capital can come only from the surplus of income over expenditure, or the law that the standard of life of a class depends fundamentally on productive efficiency of that class is axiomatic in nature and can in no way be regarded as hypothetical.

Certain economic laws are, however, not hypothetical.

The Methods of Economics: Every science has its proper methods of investigation. We shall now discuss what methods have been adopted by economists for conducting economic investigations. There are two methods by which a scientist may proceed in his investigation. They are known respectively as deductive or abstract, and inductive or historical methods. The deductive method consists in the following. First, the principal factors in operation in any field of investigation are determined. Then the consequences that will ensue from the operation of these factors under given conditions are deduced by a process of reasoning. The classical economists applied the deductive method in their investigations and tried to deduce the whole of economic science from certain generalisations about human motives and habits. They started from some generalisations about human nature, *e.g.*, men always try to buy in the cheapest market, etc. Taking these motives and facts to be universally true, these writers tried to formulate the probable economic actions of men and the laws which govern the activities. These conclusions and the method of forming them have been criticised by many writers. But the mistake of classical writers did not lie in the fact that they followed the deductive method, but in that they based their generalisations on insufficient data. They assumed too hastily that their abstractions always corresponded with facts.

Deductive method.

One extreme variant of the Deductive method is the Mathematical method. Jevons argues that economics is essentially mathematical in character, taking the term mathematical to mean all enquiries that deal with quantitative relations. Economics deals with phenomena whose quantitative aspect is of fundamental importance and in those phenomena

this method may be employed profitably. The chief advantage of such a method is that it leads to high standards of precision in abstract economic reasoning. Chances of mistake are few. Another advantage of this method is that it explains the relation of mutual dependence which may subsist between different phenomena, *e.g.*, supply, demand, and price. The chief defect lies in the fact that those who follow this method may be absorbed in the framing of intellectual toys and the real end may be forgotten in the intellectual gymnastics and mathematical treatment.

The chief critics of the Deductive school are writers of the Historical school, which flourished mainly in Germany. They employed the inductive method and developed the economic science from economic history. They collect particular materials from economic history or contemporary events, and draw general conclusions from them. These conclusions are further verified by reference to subsequent economic facts. The rapid advance in the science of statistics during recent years and the collection of data by governments and private individuals have enhanced the value of this method. From the data thus collected valuable and scientific conclusions have been drawn, thus making the science more accurate and perfect. But their criticism of the deductive method was often wrong. Of course, it is true that we must establish and know the facts first of all. No science can proceed without data or with incomplete data. The conclusions formed by general reasoning must also be verified by facts. To admit that is not to admit the uselessness of the deductive method. "Facts do not speak for themselves. It is only by analysis, comparison, hypothesis and prophecy that they can be made to speak at all."*

No science can proceed without the aid of reason and hypothesis. Without the aid of deductive reasoning the historical method runs the risk of remaining purely descriptive. It can serve only to accumulate a mass of unconnected and unserviceable facts. This school of economics has not in fact re-made the subject; it has only served to introduce a new spirit.

Modern writers are now all agreed that both these methods are partners, not rivals. The aim of the science is to discover economic uniformities, and it is always right to follow any path or to pursue any method that is likely to lead to that end. "Induction and deduction are both necessary for the science, just as the right and the left foot are needed for walking." Both these methods may be profitably employed by economists, but in different proportions for different purposes.

The use of both methods is necessary.

* Durbin—"Methods of Research" in the *Economic Journal*, June, 1933
Page 187.

The Relation of Economics to other sciences: In modern times, an increasing unity between different sciences is gradually being perceived. The point of contact between

All social sciences are inter-related. different sciences is becoming more pronounced

and the relation of Economics to Sociology, Politics, Ethics, Psychology, History and Mathematics is now well recognised. The modern method of study is increasing specialisation and differentiation. In spite of the pursuit of this method, the possibility of a synthesis of all sciences under one system of philosophy is admitted, and is seriously attempted by some writers.

Economics and Sociology: Sociology is the general social science. It deals with the fundamental facts of all social life,—economic, political and historical, etc. Sociology is the science of the elementary principles of social union. According to Comte, Economics cannot claim to be a separate science, but must be included within Sociology. In reply to Comte, it is pointed out that the provinces of Sociology and Economics are quite distinct. Sociology is an all-comprehensive social science. It takes into account all the conclusions arrived at by different social sciences and utilises these premises for arriving at further conclusions. Sociology is not merely the sum of various social sciences, but it is a philosophy based on the

Sociology deals with all aspects of social life: Economics with only one aspect.

results of all of them. Sociology is the fundamental social science, of which other social sciences are but differentiations. The scope of Economics is quite distinct from that of Sociology. It does not claim to be an all-comprehensive science. It is a branch of Sociology. Though a branch, its aims and scope are quite different from those of Sociology. It thus studies some distinct part of human life, not the whole of it. Its methods are distinct, its scope is distinct and its aims are also quite distinct. Though a branch of Sociology, Economics is thus a separate science.

Economics and Politics: Economics and Politics are both branches of Sociology. The connection between Economics and Politics is very close. Earlier writers used to regard Economics as a branch of Politics. The Greeks regarded Political Economy as the art of providing revenue for the state, and other writers, including Adam Smith, conceived Economics as an art to be employed for

Politics deals with the state; Economics with wealth.

furthering the purposes of the state. The very use of the expression, 'Political Economy', shows the intimate connection of the science with Politics. The modern use of the term 'Economics' in place of 'Political Economy' is deliberate. The change indicates that its primary end has got nothing to do with the state. In spite of the deliberate use of the term "Economics", modern writers do not deny the relation of this science to Politics. This will be evident from the following considerations.

Economic institutions of a country depend for their progress upon the system of government. Every modern government is closely concerned with economic matters. All modern legislatures are preoccupied with questions of dispute between labour and capital, the imposition of tariffs, the tackling of the unemployment problem and many other industrial and commercial matters.

The economic institutions are dependent on political organisation.

All economic activities are carried on within the state according to the laws laid down by the state. Problems of individualism and socialism point to the close connection between the two sciences. These problems are dealt with both in Economics and Politics, so inseparable are the economic and political aspects of the problems. Secondly, the political organisation of a country is often a reflex of its economic organisation. The Aristotelean classification of the states into tyranny, oligarchy and democracy was based on wealth. Political movements are profoundly influenced by economic causes. State-socialism, Syndicalism, Fascism, Bolshevism and many other movements are not merely economic movements, but are political movements as well.

From all these considerations, it is evident how much closely connected both these sciences are, though their departments of enquiry are separate and distinct.

Economics and Ethics: The connection between these two subjects is also very close. Ethics furnishes a standard or ideal to which the economic institutions and activities

Economics is the handmaid of Ethics.

are to approximate. The discussion of the relation of wealth to welfare shows the essentially ethical bent of the science. Economics is the handmaid of ethics and the end of all economic activities is to promote human welfare. Ethics thus furnishes a standard by which to guide our activities.

Ethics, none the less, is indebted to Economics. Economic conclusions give certain data for the study of Ethics, and from these data Ethics draws further conclusions. For

Economics furnishes the data on which Ethics builds.

example, Economics finds out from observation that indiscriminate relief to the poor under certain circumstances promotes idleness and destroys self-reliance. Ethics draws the conclusion from this datum that indiscriminate help to the poor is not always ethically justified and lays down certain rules for giving charity to the poor. Thus the relation between Ethics and Economics is very close. Seligman* rightly remarks, "Economics, like Ethics, is primarily a social science, the true economic action must, in the long run, be an ethical action."

* Seligman. *Principles of Economics*. Page 35.

CHAPTER 2

SOME FUNDAMENTAL IDEAS

Goods: Anything, material or immaterial, which can satisfy human wants is goods. Goods may be *free goods* or *economic goods*. *Free goods* are those goods whose supply is not limited. Their supply is more than sufficient to satisfy the demand for those goods. The sunshine and the rain, the air, the water of the ocean and the sands of the desert are examples of such free goods.

Goods, the supply of which is scarce in relation to demand, are *economic goods*. *Scarcity does not mean mere limitation in quantity; it means limitation in relation to demand*. When the available supply of an article is not sufficient to satisfy the total demand, it becomes scarce in the economic sense. The line

Economic goods.

between free goods and economic goods is thus not a definite one. Water in the homes of a modern city is an economic good, while it is a free good to the inhabitants near the river. Thus under the complexities of modern life, more and more free goods are passing into the category of economic goods. Scarcity is thus not a fixed quality, but a changing one reflecting every shift of human wants.

Looked at from another point of view, economic goods are those goods which are *transferable*, and which are *external* possessions of a man. Nobody will demand a thing of which he cannot be the owner. Transferability should not be confused with portability. It is enough if the ownership of the thing can be transferred. Land in that sense is transferable. Moreover, to be transferable a thing must be *external* to a man. For the ownership of things which are internal to a man cannot be transferred, and so no one would pay anything for them. Thus the poetic genius of Rabindranath Tagore, or the qualities of a first class surgeon are incapable of being transferred from their present owners. Hence these do not constitute wealth in the economic sense. There is no conflict between the two standpoints from which we have defined economic goods. A thing to be transferable must also be scarce in relation to demand, for it is absurd to think of any man paying something for the ownership of free goods.

Wealth: Wealth is synonymous with economic goods. In order to be classified as wealth, a thing must possess *four* attributes:—

- | | |
|----------------------|---|
| (a) Utility, | (i) it must have utility, <i>i.e.</i> , it must satisfy a human want; |
| (b) Scarcity, | (ii) it must be scarce in relation to demand; |
| (c) Transferability, | (iii) it must be transferable; |
| | (iv) and it must be external to man. |

Thus the term, "wealth", includes not only those material goods, which are transferable and external, such as land, furniture, houses, etc., but also

the non-material goods which are external to a man, and transferable, *e.g.*, the good-will of a business, copyright of a book, patents, etc. But it excludes those material goods (*e.g.*, fresh air), which are not transferable, and those non-material goods (*e.g.*, personal qualities like the dexterity of a mechanic) which are not external to man.

Is money or any other medium of exchange wealth? Wealth in modern society is generally measured in terms of money. Are we then to regard a coin or a paper note as wealth?

Is money wealth? The general opinion would regard money not as wealth, but as representative of other wealth. Money is merely a medium of exchange. It gives command over wealth, but it is not wealth. Mere multiplication of money units would not increase the wealth of the country. But though money is not wealth, yet money is the measure of wealth. The dividing line between economic and free goods is furnished by the fact that the former commands a money price, while the latter does not. Wealth consists of those goods which can be exchanged for money.

Lastly, the intimate correlation between wealth and want must not be forgotten. A thing is wealth because a particular human being or a class wants it. *The psychological attitude of man is the real determinant of wealth.*

The term "wealth" is relative. If the psychological attitude changes, the character of wealth would also change. Thus *Tagore's Pocus* may not be wealth to the man who is devoid of any education, but to an educated man, they constitute an important part of his wealth.

Collective wealth: It consists of those external, transferable goods, both material and non-material, which are public property, and are enjoyed by all the members of the public. Such things as roads, public buildings, art galleries, government offices, etc., belong to this class.

National wealth: It includes the individual as well as the collective wealth of the country. To compute national wealth, we must add the aggregate wealth of all members of the community, plus the public property of all kinds, material and immaterial. But we must recognise that there is also some *negative wealth*. For example, though the government loan-stock constitutes wealth to the individuals, yet it is a form of national debt. Against many public works must be offset the heavy negative wealth of public debts. We should, however, add the debts owed to the citizens by the members of foreign countries.

VALUE

Value-in-use and value-in-exchange: The term 'value' may mean any of the two things. It may indicate simply utility, or usefulness. Or it may mean, 'power in exchange,' *i.e.*, its purchasing power over other commodities. The first interpretation is known as value-in-use: the second as value-in-exchange. In order to com-

mand some value-in-exchange, a thing must not only possess value-in-use, but it must also be limited in supply in relation to demand. In economics, we are not concerned with value-in-use, but with value-in-exchange.

Value-in-exchange.

Some commodities possess great value-in-use, yet they may not command a high value-in-exchange. For example, water is very useful to human beings. Strictly speaking, it is more useful than gold, but curiously, it does not command as great a purchasing power as gold does. That is, though water possesses more value-in-use than gold, yet it has less value-in-exchange than the latter. The reason is obvious. The supply of water is not limited in such a degree as the supply of gold. Hence gold commands more value-in-exchange than water. As we have stated, to possess value-in-exchange, a thing must not only possess value-in-use, or utility, but also it must be limited in supply. The more the supply is limited, the greater is the value, other things being equal.

Value and price: Value, as we have already pointed out, means power-in-exchange. Value is thus a ratio between two commodities. The value of one maund of rice is the amount of other commodities that can be obtained in exchange for it. Thus the value of rice may be expressed in terms of wheat, jute, cotton, etc., or any other commodity, when it is exchanged for any of them. When value is expressed in terms of money, it is called *price*. When a maund of rice is exchanged against money, the ratio of one maund of rice with the money-units is known as price.

In real life, all transactions are conducted in terms of money. So, instead of knowing the *value* of a thing in terms of *other* commodities, we know its *price* in terms of money.

There is another thing which must be noted in this connection. There can be a general rise or fall in the prices of all commodities, but

Can there be a general rise or fall of prices, or of values? there cannot be such a thing in regard to the values of all commodities. For the prices of all things depend on two factors:

—the total volume of all the commodities that are to be exchanged against money, and the total volume of money in circulation. If the volume of money in circulation increases, the prices of things in general will rise; conversely, if money in circulation

CLASSIFICATION OF GOODS.

Goods	{ External	{ Material	{ Transferable, <i>e.g.</i> , house, bread.
			{ Non-transferable, <i>e.g.</i> , air, climate.
	{ Personal		{ Transferable, <i>e.g.</i> , goodwill of a business.
			{ Non-transferable, <i>e.g.</i> , business connection.
	{ Internal—Personal—Non-transferable, <i>e.g.</i> , skill of a surgeon.		

Wealth consists of external-material-transferable, and external-personal-transferable goods.

decreases, other things being equal, the price-level will fall. It means that the prices of all things will fall, though, of course, not to the same degree. This general rise or fall in the prices of all things is a constant phenomenon. Immediately after the war, the prices of all things rose to giddy heights. *But there cannot be any general rise or fall of values of all commodities.* For value is a ratio. Let us take a concrete example. If the value of rice rises, that means that more goods can be obtained in exchange for rice. That is, the value of other things has fallen in terms of rice. If the value of rice in terms of wheat rises, that indicates that more wheat can be obtained for rice. It also means that the value of wheat has fallen. When the price-level rises, though the value of other commodities has risen in terms of money, the value of money has, on the other hand, fallen in terms of other commodities. Hence there cannot be any general rise or general fall in the values of all things.

Competition and economic freedom: It remains to add certain assumptions on which the vast majority of the economists base their deductions. The most important assumption on which the classical writers proceeded was the existence of competition in the market. A general tendency towards competition was regarded as a broad feature of all advanced economic systems. But is competition the characteristic of the modern age? In answering this question, Marshall points out that though many writers have attempted to show that modern forms of business are distinguished from the earlier ones by being more competitive, the word competition does not properly bring out the characteristics of the modern age. "The strict meaning of competition seems to be the racing of one person against another, with special reference to bidding for the sale or purchase of anything." But this term does not adequately express the characteristics of the present age. The characteristics of the modern age are "a certain independence and habit of choosing one's own course for oneself, a self-reliance, a deliberation and yet a promptness of choice and judgment, and habit of forecasting the future and of shaping one's course with reference to distant aims. They may and often do cause people to compete with one another, but on the other hand, they may tend and just now indeed they are tending in the direction of co-operation and combination of all kinds, good and evil."*

Further, the term competition "has gathered about it an evil savour and has come to imply a certain selfishness and indifference to the well-being of others. Now it is true that there is less deliberate selfishness in early than in modern forms of industry, but there is also deliberate unselfishness. *It is deliberateness and not selfishness that is characteristic of the modern age.*"† And this characteristic

* Marshall. *Principles of Economics*. Page 5.

† Marshall. *Principles of Economics*. Page 5.

cannot be better described than by the term 'Freedom of Enterprise' or more shortly by 'Economic Freedom'.

Freedom of industry and enterprise or economic freedom implies the following. (a) *Freedom of movement*: It means mobility of labour and capital. Labour and capital tend to flow to those industries and places where their rewards are the highest.

Features of economic freedom. (b) *Freedom of occupation*: It means that labourers can choose any occupation that appears most lucrative and suitable to them. Freedom of occupation ensures as far as possible the right man for the right place and this leads to enhanced production and better distribution. (c) *Freedom of consumption*: In many countries, there were laws which prescribed in detail what should be eaten or worn by the people, or a class. These sumptuary laws were well-intentioned, but they generally produced bad effects. By restricting the expansion of wants they checked progress. Economic freedom assumes the non-existence of such laws. (d) *Freedom of production and trade*: In mediæval times, production and trade were not free. There were guilds with virtual monopoly of production. The modern age has seen the emancipation of production and of internal and external commerce from mediæval restrictions. Freedom of production ensures the elasticity of modern productive organisation. New businesses are established to meet new wants at the quickest possible opportunity; or old industries may be adapted to meet changed demands.

Defects of the system of Free Enterprise: The system of 'Free Enterprise' went only half way. It swept away obstacles to individual initiative. It was a negative reform. This system was silent so far as constructive statesmanship was concerned. It did not provide for research into processes of production at the public expense, or for providing educational facilities to all. Secondly, though this system has given scope to owners of small businesses to rise to the coveted position of industrial leadership, it does not provide for eliminating those who are incapable but are in an entrenched position. "The elimination of the unfit organiser by competition takes time and during the interval in which he scrapes along he may do infinite harm and at the best will cause great waste."

It does not always lead to the elimination of the unfit.

Thirdly, economic freedom or *Laissez-faire* presumes a certain amount of equality of opportunity for all. But there cannot be any equality of opportunity unless the distribution of property is less unequal than at present. Lastly, there is the question of class prejudice. A middle-class man will prefer a man of his own class to a man of the lower rank, however capable he might be. This class prejudice presents a friction to the proper adjustment of men and money in business economy of a country. It involves social wastes of labour and capital.

But conditions have changed since the time when Marshall wrote. Recent events show that much of the above description is becoming unrealistic. The influence of competition or free enterprise is being slowly displaced by that of combination. These and the changes in our social ideas have led to increased intervention in the economic organisation by the public authorities. Deliberate attempts are being made to guide the course of productive activities along desired channels. Indeed the present age may be aptly called the age of "National Economic Planning".

CHAPTER 3

WHAT IS CONSUMPTION: NECESSARIES, LUXURIES.

From the earliest times, man's life has been a continuous record of cravings and desires. It is these wants and desires which are driving man towards all types of productive activity. The hope of satisfying the unfulfilled desires is, therefore, the main-spring of human activity. Hence the students of Economics must concentrate their attention on the analysis of human wants and desires.

Consumption does not mean the destruction of anything. Man cannot destroy matter just as he cannot create matter. Consumption

consists in the satisfaction of wants. A man consumes only the utilities that production has added to material things. Consumption uses up utilities, but not matter. Only the shape or form of matter is changed. Thus when we wear out our clothes, or live in our houses, we are said to consume them. "The carpenter is just as much a consumer when he hammers nails into the floor-boarding, as is the gourmet who enjoys an expensive repast, the preparation of which has involved the services and labour of countless workers in many parts of the world."

Until recently, the economics of consumption was entirely neglected. The early economists paid very little attention to the analysis of human wants. But in recent times, economists, in their search for the ultimate causes that lie behind and shape the demand curve of an individual, have been paying more and more attention to the subject.

Consumption is the goal of all productive activity. Production is a means, not an end. The end is the satisfaction of human wants.

Relationship between consumption and production. Wants are, therefore, the mainspring of all human activities. The forces that set the wheels of the productive system going are furnished by human wants. A man's wants find outer expression in the various offers of money. The consumers vote for the choice of certain kinds of goods, and for the rejection of others. And by casting such votes, they control the direction of productive activity. The making of goods follows where the spending of money leads.

While wants give rise to activities, the reverse is also true, especially in modern times. In the early stages of society, the physical

cravings supplied the motive to all human efforts. The savage would not take up any productive activity in many cases gives rise to new wants. activity unless he was impelled by the necessity of satisfying some elementary wants.

But as civilisation advances, while the influence of wants in guiding

human efforts still remains, yet in many cases, human activities, instead of assuming a passive role, often give rise to new wants. The invention of cycles, or telephones has not been undertaken in response to a determinate and known human want. But their invention, by familiarising the people with their uses, created new classes of wants. Here, as in many cases, production gave rise to increased consumption. Hence the relationship between consumption and production is one of inter-dependence, rather than one of cause and effect.

Wants: Since consumption is the satisfaction of human wants, it is necessary at once to know what these wants are. These wants spring from one of the four sources.

Sources of want. Firstly, they spring from the desire for the minimum of goods that are necessary for existence. Such are the wants for the minimum of food, clothes, etc. Secondly, they are born out of the desire to maintain the group or the class standard of living,—a feeling which gives rise to the appearance of "conventional necessities." Thirdly, they spring from the craving for distinction and excellence. It is this feeling which impels the ladies to wear the latest pattern in Saris or jewellery. Fourthly, they may arise from altruistic or æsthetic motives. But the fourth source is not an important one, for the outlays on them form only a very small part of the total expenditure of a consumer. These wants may further be classified into two groups, according as they occur regularly or irregularly. The line between the two is not always clear, yet for purposes of analysis, a fair distinction can be made between the two. The first group of wants—the *recurring wants*—includes the necessities, conventional necessities, and some of the wants arising from the desire for distinction. The second group—*non-recurring wants*—includes the wants springing from competitive ostentation and from altruistic or other motives. The first group possesses two special characteristics.* They are in large part "pre-determined", i. e., they are the result of custom and social habit. These wants of an individual are fixed by the standard of living of the social group in which he lives. Hence the demand for them is generally inelastic. A fall in prices would not induce the individuals to purchase large quantities of these commodities. The demand for the non-recurring group of commodities is generally elastic.

Characteristics of wants: Wants exhibit four characteristics.

- (a) Any particular want is *satisfiable*. Our desire for a commodity decreases as we get more and more of the commodity.
- (o) Every particular commodity. Increasing amounts of the same want is satisfiable. article yield gradually decreasing quantities of satisfaction. From this fact is deduced the law of diminishing utility.

* Angell. "Consumer's demand" in the *Quarterly Journal of Economics*. August, 1925.

(b) But wants in general are also *illimitable*. Any single want for an article may be satisfied after we get a large quantity of that commodity. Yet there is no limit to the development and satisfaction of men's wants in general. When old wants are satisfied, new wants, either for other things or for varieties, spring up in their places. Human contentment is short-lived.

(b) But wants in general cannot be satisfied. When old wants are satisfied, new wants, either for other things or for varieties, spring up in their places. Human contentment is short-lived.

(c) Wants are also *competitive*. Our desire for food may be satisfied by *chapaty*, rice or any other food. "A man in a state of unsatisfied discontent may be cheered by the prospect of an interesting book, a luxurious meal, an exciting foot-ball match." In a sense all wants are competitive, for even if our means were unlimited, the time at our disposal is so short, that in enjoying one want, we would have to forego others. From this characteristic is deduced the law of equi-marginal returns.

(c) Because of many wants, we have to choose between wants. all wants are competitive, for even if our means were unlimited, the time at our disposal is so short, that in enjoying one want, we would have to forego others. From this characteristic is deduced the law of equi-marginal returns.

(d) Wants are also *complementary*. Many wants go together. The consumption of one thing for the satisfaction of one want involves the consumption of other goods as well. For example, our desire for a motor-ride involves not only the use of a motor car, but also of petrol.

(d) Wants are complementary. For example, our desire for a motor-ride involves not only the use of a motor car, but also of petrol.

Necessaries, comforts, luxuries: The distinction between the three classes of wealth is not easy to draw. By some, especially the ancients, the distinction was made on an ethical basis. Necessaries consisted of those things which were conducive to a life of plain living and high thinking; while luxuries were said to degrade a man. The distinction has sometimes been made on the ground of "productive" consumption. *Necessaries* are regarded as those things which are essential to the maintenance of life and efficiency. As such, necessities may be divided into two classes. (a) *Necessaries for life*. These are limited to those things which are essential for bare subsistence. (b) *Necessaries for efficiency*. These consists of those things, which, in addition to the necessities of life, enable men to keep themselves fit and efficient.

In addition to these two classes of necessities, a third class must also be recognised:—the *conventional necessities*. They consist of those things which are really not necessary for maintaining life or efficiency, but which have become so through force of habit, and "which a person will insist on buying before he has completed his supply for necessities." Familiar examples are tobacco, tea, some indulgence in fashionable dresses, etc.

(c) *Comforts*. These stand midway between the conventional necessities and luxuries. They consist of those things of life, which increase the efficiency of a person, but the value of the increase in efficiency is generally less than their cost.

Comforts.

(d) *Luxuries* are those things, the consumption of which satisfies a superfluous want. Their consumption does not increase, but many, in many circumstances, decrease the efficiency of a person.

Luxuries.

Necessaries, comforts, luxuries are relative terms. Differences of climate and differences of custom make things necessary in some places, but superfluous in others. A shirt is a necessity for a western labourer, but is often a luxury to an Indian worker. Hence all these terms are relative.

every estimate of necessities must be relative to a given time and place. The conventional necessities vary in different societies, and in different social groups. The *hukkah* is a conventional necessity to the Indian ryot, while a cup of tea finds a welcome smile in many middle class homes. In drawing the dividing line, we must also pay regard to the occupation of the person. A thing which is a comfort to one person may be luxury to another, and a necessary for efficiency to a third. A motor car is a luxury to a poor man, necessary for efficiency to a doctor, and a comfort to many hearts.

Is the consumption of luxuries economically justifiable? The very word luxury carries a note of condemnation. But the economist is not concerned with that. For purposes of analysis, luxuries may be divided into two classes:—

When is luxury justified? harmful and harmless luxuries. *Harmless luxuries* are those things (e.g., expensive dresses) whose consumption does neither increase, nor decrease a person's efficiency. *Harmful luxuries* are those things (e.g., wine) which materially diminish a person's efficiency. The consumption of harmful luxuries is not justifiable. But what about the harmless luxuries? It is sometimes assumed that luxuries are justifiable because they "make work", i.e., they give additional employment to labour. But there is no foundation for this view. The money that is now spent on luxuries, would have been spent on the purchase of other things or invested (in the absence of luxuries). That would have provided work, possibly of a different kind, for labourers. The economic justification of luxuries lies in the fact that the desire for luxuries has often impelled a man to seek wealth, and in seeking it he indirectly confers great benefits on the society. The lure of luxuries in life is a perpetual incentive to effort. The incentive may be coarse, but it works and enriches the productive capacity of the community. Moreover, the desire for luxuries has been responsible for the growth of the fine arts.

CHAPTER 4

UTILITY

Utility: In ordinary language, the word utility signifies the usefulness of a commodity. Air and water are stated to possess high utility in this sense. But in economics, the term is used in a different sense. It means the capacity to satisfy wants. It signifies only the fact that a thing is wanted, that it is expected to satisfy a given desire. We may desire a thing because it is useful, but it need not always be the case. Nor is it true to say that utility for a thing is the satisfaction that we get from that thing. Desire and satisfaction do not always balance. *Hence utility is the measure, not of usefulness, nor of satisfaction, but of the intensity of desire.*

The intensity of desire with which a thing is wanted and the satisfaction that is actually realised from the consumption of the thing represent two different mental states. The

In utility analysis, we assume that the intensity of desire and realised satisfaction are equal.

economist wants really to measure the second, but he cannot do it, for he cannot enter into the mind of the consumer. Hence he has to fall back upon the first. The economist

assumes that the intensity of desire with which a thing is wanted is, more or less, equal to the amount of satisfaction actually realised from its consumption. But this is not always true. And Marshall himself mentions several causes of disparity between desire and satisfaction, *e.g.*, impulse, habit, morbidity, mistaken expectations, etc.* But on the whole, when a man's habits are fairly fixed, these two will not differ in such a way as to vitiate the conclusions of the economists.

Utility of a commodity cannot be *directly* measured. For we cannot define utility in physical terms as we can define food in so many calories. We cannot compare and make

We can measure utility only indirectly through offers of money.

an accurate estimate of our mental states.

But we can compare the utility of one commodity with that of another, or with that of money, or two utilities may be compared as being in same ratio with two sums of money. "If we find a man in doubt whether to spend a few pence on a cigar, or a cup of tea, or on riding home instead of walking home, then we follow ordinary usage, and say that he expects from them equal utilities."†

Lastly, it must be pointed out that though the term "utility" suggests a particular school of ethics, in economics, we employ the term without any ethical meaning. The desire the intensity of which

* Marshall. *Principles of Economics*. Page 92.

† *Ibid.* Page 15. We have substituted "utilities" in the place of "pleasures".

we want to measure may be noble or ignoble; the economist is concerned only with the existence of the desire, but not with the character of the desire.

Diminishing Utility: Though there is no limit to human wants in general, a particular want is satiable. As we get more and more of a thing, the intensity of our desire for that thing tends to diminish. This is a familiar fact deduced from observations of human nature. Our desire for possessing one pair of shoes is very strong. But our desire for a second pair of the same pattern becomes evidently less. A third pair will yield still less satisfaction, while a fourth may be regarded a mere encumbrance. This tendency towards diminishing utilities from successive units of the same commodity is operative in all branches of consumption. The rate of diminution may be slow for some commodities, or rapid for others, but the tendency is still present, and a point will come when further instalments of the commodity would yield no utility at all. This generalisation is known as the *law of diminishing utility*, which has been stated by Marshall in the following words.

"The additional benefit which a person derives from a given increase of a stock of a thing diminishes with every increase in the stock that he already has."

Utility, as we have seen, can only be measured indirectly through the price that a man is willing to pay for the commodity. Stating the law in terms of prices then, we may assume

Marginal unit.

that a person will be just willing to pay Rs. 6 for one pair of shoes. The sum then measures the utility of one pair of shoes to him. The second pair obviously yields less satisfaction than the first, and hence, for it he will offer less money, (say) Rs. 5. This sum measures the utility of the second pair to him. For the third pair he will, according to the same reason, lower his offer further, say to Rs. 4. Then this sum measures the utility of the third pair. In this way, as he goes on purchasing more shoes, he will offer lower and lower prices, until a point will come when he will refuse to buy any more shoes. The last pair of shoes which he is just induced to buy at a given price is known as *marginal pair*, and the utility that he derives from this pair is known as the *marginal utility*. Suppose he will just buy three pairs of shoes and no more. Then the marginal utility of shoe, so long as he buys three pairs, is measured by Rs. 4. We may then state the law in the following way:—

"At any given time the marginal utility of any commodity to its owner decreases with every increase in the stock of that commodity."

The law may be graphically represented in this way. Along OX (Fig. I), we measure the units of the commodity (shoe), and along OY we measure the price that a man is willing to pay for the different pairs of shoes. For OA pair of shoes, the consumer will pay AA' price; for AB pair, he will pay BB' price because the utility of the

AB pair will be less than that of OA pair of shoes. Similarly for BC pair, he will pay CC' price; for CD pair, DD' price; the latter becoming less and less as he purchases more and more pair of shoes. A curve joining the points A' B' C' D' will represent the law of diminishing utility, and will have a negative slope.

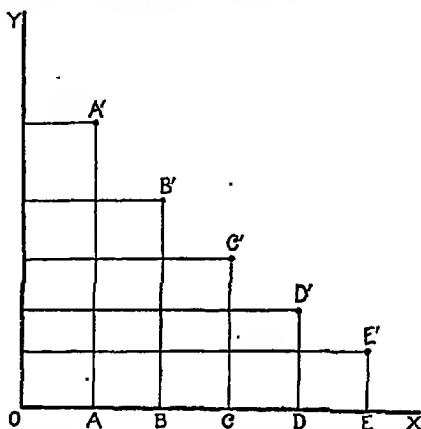


Fig. 1

Limitations of Law: The phrase, "at any given time," points to an important qualification. If we take a certain period of time into consideration, the consumer's habits or tastes may change in the meanwhile.

The consumer's tastes and habits must be assumed to remain unchanged.

Hence it is no exception to the law to say that the more good music a man hears, the greater is his desire for music; or the more a man drinks, the greater is his desire for additional drink. For, in the meantime, the consumer's habits or tastes have been altered. We must assume a period of time suitable to each occasion. It still remains true that at any given moment, given the consumer's tastes and habits as fixed, the successive units will yield smaller satisfaction than before.

Similarly, we must take the units to be of suitable amounts. If we take the earlier doses to be very small, the marginal utility may rise at first, instead of falling.

If we take very small units, then marginal utility may increase.

A very short holiday might not fully recuperate and soothe a man's work-worn faculties; while another holiday of double duration would yield more than double utility in soothing his nerves. *Hence we must take units*

to be of reasonable and adequate amounts. These limitations are not thus *real* limitations. They merely dot the i's and cross the t's of the law.

There are certain groups of commodities, the marginal utility of which does not diminish with every increase in the stock of them.

In certain cases, e.g., stamps, marginal utility may increase. The collector of curios, or of stamps, may desire the additional units of the curio articles, or stamps with increasing intensity. But according to Viner,* this is no limitation, if

we take a complete set as the proper unit of observation. For example, if there are known to be in existence two pearls of the same type, these two should be taken as one unit. The addition of pearls of the same type to this unit will yield diminishing utility.

In some cases, the marginal utility of a commodity depends, not only on the stock that the consumer possesses, but also on the stock possessed by other people. The marginal utility of one set of telephone, for example, rises with increasing use of telephones. Similar is the case with fashion or style commodities. But there is no doubt that at any given time, given the extent of the use of the commodity, the utility of additional units to an individual diminishes. For example, if the number of telephone-users remain fixed, an additional set of telephone will yield less satisfaction to the same person than the first set.

In spite of these limitations, which are of no great importance, "the tendency shows itself so widely and with so few exceptions that there is no serious inaccuracy in speaking of it as universal." The law is important on the ground that it lies at the basis of the law of demand, and provides adequate reasons for the negative, i.e., downward slope of the demand curve.

A broader statement of the law of diminishing utility: The law is usually stated in the way that the marginal utility of a commodity

Utility of a thing depends on many factors. is dependent on the stock in possession, and diminishes with every increase in that stock.

But the marginal utility of a commodity also depends on the amount of other commodities that may be used as substitutes, and as complements. For example, the marginal utility of tea depends, not only on the number of cups that a person has drunk, but also on the price of coffee. Secondly, the marginal utility of a thing depends on the quantity of goods in general over which a person has commanded. If his income were suddenly doubled, he will not only offer different prices for a commodity, but he might also feel a less or more intense demand for the commodity. "The value of a bicycle to a man who bicycles because he cannot afford a motor car may drop to zero when he gets a motor car." Lastly, the marginal utility of a commodity depends not only on the amount of that commodity that a

* Viner. "The Utility Concept in Economic Theory" in the *Journal of Political Economy*, 1925.

person possesses, but also on the amount of that commodity that other people possess; on the distribution of that commodity among other people; and on who the other people are. Thus the utility of diamonds varies inversely, and that of a particular fashionable dress, directly with the extent to which they are in common use. A person's desire for a particular fashionable dress may increase if it becomes known that the members of the Royalty are known to wear it. Thus the marginal utility of a commodity to a person depends not only on the quantity of that commodity that he possesses, but also on the quantity of complementary and competing goods, on the amount of commodities in general possessed by him, on the amount possessed by other people, as well as the distribution of that commodity among other people, and even on the social classes to which the other people belong.*

Total utility and marginal utility: Total utility is the sum of the utilities of all the units in possession. It is equal to the amount of utilities which we would lose had we been deprived of all the units of a commodity. Marginal utility is the utility yielded by that unit of the commodity that a person is just induced to buy at a given price. To take the case of shoes, suppose a person buys only three pair. Then the total utility of shoes to him is measured by (Rs. 6+5+4) Rs. 15, while marginal utility is equal to Rs. 4.

It is marginal utility, and not total utility, that is measured by the price. A person will go on buying a commodity upto the point at

Price measures marginal utility, not total utility.

which its marginal utility to him will be just equal to the price that he has to pay. It is the utility of one more or one less unit of water which influences its price, and not the utility of all the units of water in our possession. *It is evident, therefore, that the concept of total utility is only of theoretical importance, while that of marginal utility is one of great practical importance.* No one knows, no one cares to know, the total utility of all the units of a commodity, say tea. It never enters into one's calculations. But the concept of marginal utility enters daily into practical life. The question which every buyer of commodities asks himself is where to stop. He has to fix a margin in every purchase, and in fixing it he has to decide whether one unit more or less is or is not as desirable as the money that he will have to part with. At last he decides to stop purchasing;—he has arrived at the margin. It should be noted here

that the marginal utility is not the utility of the lost unit; it is the utility of one more or one less unit of a commodity, because physically the units are indistinguishable. Thus the utility of one pound of tea in my stock is the same as that of any other pound, including the last in the same stock. But the utility of one pound of tea in a

* Pigou. "Some remarks on utility" in the *Economic Journal*, 1903.

stock of five pounds is greater, other things being equal, than the utility of one pound of tea in a stock of six or more pounds.

Some criticism of the utility doctrine*: The concept of utility has come in for a good deal of criticism. First, it has been argued that it rests on bad psychological premises. These

(a) It is based on bad psychology. critics have assumed that economists have deduced their law of diminishing utility from

the Weber-Fechner Law of the psychologists, and argue that as the said law is applied by the psychologists to explain diminishing sensations, and not feelings, therefore the utility analysis rests on unsound psychology. *But there is no evidence to show that the early economists borrowed all their psychological notions from the psychologists.* They did not base their generalisations on hedonistic or any other psychological principles. They obtained their data from experience, and not from any psychological postulates. Secondly, it is argued that the

(b) It rationalises human behaviour too much. marginal utility doctrine rationalises human behaviour out of all semblance to reality. Very few men carefully consider the utilities of different units when buying a commodity.

Man, in most of his activities, is neither deliberate, nor reflective. His behaviour is the resultant action of "impulses, instincts, habits, customs, fashions and mob hysteria." But the economist is concerned only with *desire*, not with the sources behind human desire. The desire may be due to instinct or to impulse; to go behind desire is not the business of the economist. *It is not necessary for our purpose to insist on the prevalence of a too much rational and deliberate calculation.* The fact is that man is a creature of competing desires, and as the means and the time at his disposal are limited, he has to choose between different alternatives. The purchase of one thing means the foregoing of another. Every man knows this tragedy of life. "The utility analysis

The law yields valuable results. is nothing more than a schematic and very abstract account of this process of making these choices."† And the conclusions of the

utility analysis provide a logical basis for the generalisation of the theory of value. The theory has afforded a satisfactory explanation of the disparity between value-in-use and value-in-exchange. It provides a hypothesis in harmony with what is known of human behaviour which adequately explains the downward slope of the demand schedule."‡

* Cf. Viner—"The Utility Concept in Economic Theory" in the *Journal of Political Economy*, 1925; also Allen Y. Young—"Trend of Economics as seen by some American Economists," in the *Quarterly Journal of Economics*, Feb. 1925, Pp. 175-76.

† Davenport—*Economics of Enterprise*. See also Henderson. *Supply and Demand*. Pp. 44-49.

‡ Viner—"The utility concept in Economic theory" in the *Journal of Political Economy*, 1925.

CHAPTER 5

DEMAND

Demand: A study of the concept of utility leads naturally to a study of demand, for utility lies at the basis of all demand. But mere desire for a thing does not constitute demand for that thing. "If wishes were horses, then beggars might ride." In our childhood, we all felt a very strong desire for the alluring things displayed in the sweetmeat shop. But our desire was not demand in the economic sense. It became demand, the moment our parents, perhaps softened by our entreaties, gave a pice to us, with which we literally ran to the shop, and which we offered to the shopkeeper. *Desire, to become effective demand, must be backed by adequate purchasing power.*

Demand, in the economic sense, has always a reference to the price of the thing. *Demand at a given price* means the amount of a commodity which people are willing to buy at the price. We cannot say how much of a thing we shall buy, unless we are told the price of the thing. The *Demand Schedule* of an individual or a market is the list of the different amounts of a commodity that the individual or individuals will purchase at different prices.

As the desire for a commodity decreases with every increase in the stock of that commodity, so everybody will offer lower and lower prices as his stock of that commodity increases. Stated in another way, it means that at higher prices, a person will demand smaller amounts of a commodity than at lower prices.

If the price is Rs. 10, a person will demand 10 units.

" " Rs. 8, " " 12 units.

" " Rs. 6, " " 15 units.

" " Rs. 5, " " 18 units.

etc., etc.

The list is known as the individual demand schedule. The *Market Demand Schedule* is composed of the demand schedules of all the individuals in the market. Now the first difficulty that confronts us in deriving the market demand schedule from the individual demand schedules is that the demand schedules of the different individuals in the market are not similar. Some are rich, while many are poor. Even among the rich or the poor, temperaments vary, and some persons

will demand a thing with greater intensity than others. The demands of different individuals show so many different peculiarities

Market Demand
Schedule.

that we cannot take any individual demand schedule as representing the demand schedules of all individuals, and multiply it by the total number of individuals. But in large markets, many of the peculiarities

will cancel each other. And because of this reason it is possible to form the market demand schedules. "While the individual desire is fitful, the resultant of the desires of all the purchasers is relatively steady,—just as, in physics, the forces of the individual molecules of the atmosphere which bombard our bodies are variable and fitful, but the aggregate resultant atmospheric pressure is a steady fifteen pounds per square inch."*

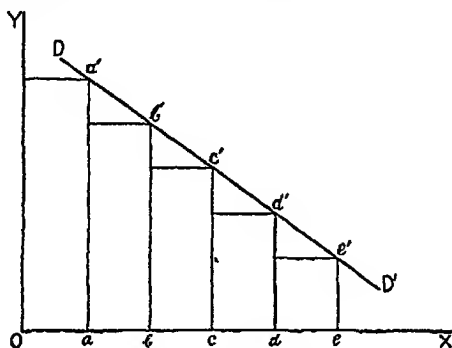


Fig. 2

It should be noted that the price does not measure marginal utility in general in the market. It only measures the marginal utility of the commodity to each individual separately. For, as the incomes and sensibilities of different persons vary, so the same price cannot measure *equal* utilities to all the persons, even though every one purchases at the same price.

The demand schedule is graphically represented in Fig. 2. The price that buyers will pay for different units of a commodity is measured along OY, and the quantity of the commodity that the buyers will purchase at different prices is measured along OX. Thus when the price is aa', a high price, buyers will purchase only Oa amount of the commodity. As the price falls from aa' to bb', buyers demand a large amount, i.e., Ob. And when the price falls to dd', demand will increase to Od amount.

Law of Demand: The law of Demand states that other things being equal, the amount of a commodity people will demand increases with every fall in the price of the commodity. Demand thus responds to price in the inverse direction. The rate of response may be slow or rapid. A slight fall in price may cause a large increase in the

* Fisher, *Elementary Principles of Economics*. P. 301.

amount demanded; or in case of other commodities, a greater fall in prices may be required to increase the demand in the same ratio.

The phrase "other things being equal" conceals an important qualification. The law of Demand lays down that the amount of a commodity demanded always changes in response to changes in prices. But this may not hold good if, in the meantime, other conditions in the market change.

For example, owing to changes in fashion, custom or seasons, the amount demanded of a commodity may not rise even though the price falls. An outbreak of small pox in an epidemic form in a season may cause the amount of fish demanded to fall without any change in price. Moreover, the amount of a commodity demanded at a given price, may change without any change in that price, if the prices of rival or complementary commodities have changed in the meantime. In the exceptional case, a rise in price may actually lead to an increase in demand. This will happen if the people anticipate a further rise in price in the future, when they may hasten to buy larger quantities than before.

Elasticity of demand: Elasticity is an attribute of demand. As we have noted, the demand for a commodity falls as the price rises. But the rate of fall may be slow or rapid. The rate at which demand will change when the price changes is known as the *elasticity of demand*.

The demand for a thing may be elastic or inelastic. Demand for a thing will be *elastic* when the amount demanded increases by a large amount as the price falls a little; or decreases greatly when the price rises a little. Demand for a commodity is said to be *inelastic* when the amount demanded increases very slowly when the price falls a little; or decreases very little when the price rises a bit. The terms "greatly", "very little" are rather vague. In order to give definiteness to our ideas, Marshall has suggested a method of measuring elasticity.

Method of measuring elasticity of demand. The *elasticity of demand*, according to him, is unity when the amount demanded at a price multiplied by the price remains constant. In other words, the aggregate sum spent on the commodity is the same whatever the changes in prices. For example, suppose when the price is Rs. 5, people will demand 100 units of a commodity. When the price is Rs. 4, they will buy 125 units. When the price is Rs. 2, they demand 250 units. In all these cases, the amount multiplied by the price is equal to Rs. 500. The elasticity of demand is unity. The *elasticity of demand will be greater than unity*, when a small fall in price will lead to such a large increase in demand that the total sum spent on the commodity increases, and *vice versa*. In the case illustrated, suppose at Rs. 5 a unit, 100 units are demanded. But at Rs. 4 a unit, 130 units are demanded. The aggregate sum spent by the buyers is Rs. 500 in the first case, but Rs. 520 in the second case. The elasticity of demand will then be greater than unity.

The *elasticity of demand is less than unity*, when a small fall in price will lead to such a small increase in demand so that the total sum spent on the commodity decreases, or *vice versa*. For example, as in the case cited above, when the price is Rs. 5, 100 units are sold, but when the price is Rs. 4, 120 units are sold. The aggregate expenditure in the first case is Rs. 500; in the second, it is Rs. 480. The elasticity of demand is, therefore, less than unity.

If the curve is of the shape DD' , demand is said to be elastic. When the curve is like dd' , demand will be inelastic.

What are the factors on which elasticity of demand depends?

(a) *The demand for luxuries is elastic, while that for necessities is*

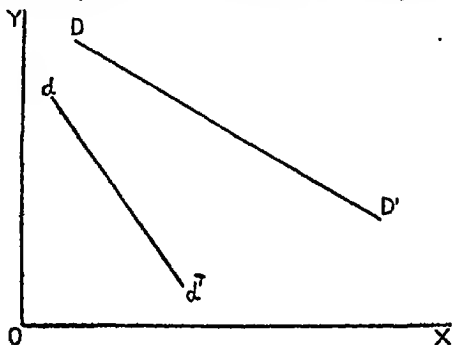


Fig. 3

inelastic. For, the amount of necessities is generally pre-determined and fixed; and we would have to consume them whatever the price. But the uses of luxuries can easily be dispensed with when the price rises. The terms, "luxuries, necessities" are, however, relative. What is luxury to one individual or a group of individuals, may be a necessary to another. Hence the elasticity of demand for a particular thing varies with different classes, according as it is a luxury or a necessary to a particular class of people. The demand for things that constitute the necessities of life is inelastic for all classes; while the demand for things which constitute conventional necessities is also inelastic. For, their use constitutes a habit, and they are not easily dispensed with. But among the necessities for efficiency, there are certain things, *e.g.*, butter, milk, fish, etc., the demand for which on the part of the poorer and the lower middle classes is elastic, while that of the richer classes is inelastic. (b) *The demand for a commodity is elastic if it has substitutes*. Buses and Tram Cars are substitutes for each other. If bus-owners charge higher fares, many people would take to riding in

train cars. That is, if the price of a bus-ride rises, the demand for bus-ride would greatly fall. (c) *The demand is elastic if the commodity has a variety of uses.* If the commodity can be used in different ways, the demand will be elastic. For example, at the present price of a unit of electricity, a person uses it only for lighting purposes. But if the price per unit falls, he might use it in cooking, or in heating the room during the winter. Hence the fall in price may lead to a greater demand. Conditions on which elasticity depends.

(d) *The demand is elastic if the use of the commodity can be postponed.* For example, my shoe is a bit worn out. If the price of shoe is low, I might discard that pair, and buy another. But if the price is high, I might decide, after all, to go on with that pair, for a little more time, and thus postpone the purchase of shoes. Demand will be greater in this case at a lower price. The consumption of the necessities in constant use, like rice, cannot be postponed, and hence their demand is inelastic. (e) *The demand is elastic for high prices, and moderately high prices; but is inelastic for very low prices.* When the price of a commodity remains usually at a very high figure, or moderately high figure, a slight fall would induce the richer classes to purchase a greater quantity of it. But when the price is already very low, i.e., within the reach of all, the wants of all the people are fully satisfied so that a slight rise or fall in price will neither retard, nor stimulate consumption. Hence the demand is inelastic. (f) *Demand will be inelastic if the total sum spent on a commodity forms only a very small part of the total income of an individual.* In that case, a small change in price will not affect his budget materially. If, however, the expenditure on the commodity forms a large part of the total budget of a person, demand will be elastic.

The concept of elasticity of demand is of great importance in the theories of value and taxation. It enables us to study the effect of a given rise or a fall of prices on the consumption of that commodity; how far the price will be forced up or down if the supply decreases or increases a little. To the monopolist, the concept is of great practical importance.

The importance of the concept of elasticity in theoretical and practical problems.

For if the demand is inelastic, it will pay him better to fix the price at a high level; for in that way only can his monopoly profit be maximised. But if the demand is highly elastic, his monopoly profit would be maximised if the price is kept low. Similarly, in problems of taxation, we are able to watch the effect of the various taxes on consumption by observing the elasticity of demand for each of the taxed articles.

The Principle of Substitution or the Law of Equi-marginal Returns: The Law of Substitution is a generalisation deduced

from the experience about any exchange transaction. We exchange x for y , because we feel less desire for one unit of x and more desire for one unit of y . Thus every act of exchange adds to our satisfaction. But as we give up more and more units of x in exchange of those of y , the utility of each unit of x increases (for our stock of x diminishes); and the utility of each unit of y decreases (for our stock of y increases). So long as the utility that we give up is less than the utility that we get, we go on exchanging. But a stage comes when the utility of each unit of x that we give up is just equal to that of y that we gain. Further exchange will now stop, since we benefit in no way from it. This is the basis of the law of substitution. Either as consumers, or as producers, we all tend to substitute one thing for another so long as by that act we gain additional utility. And we would stop only at that point where we could get no more additional satisfaction by substituting one thing for another. At this stage, the satisfaction that we obtain from each unit is equal, and the total satisfaction from all units is the maximum.

Hence the law of substitution is also known as the law of equi-marginal returns. A person tries, by substituting one thing for another, to get equal marginal utilities from each unit of money. The law is applicable to consumption, production, and distribution, because each of them can be looked upon as a sort of exchange.

In consumption, the law states that we all tend to distribute our income on different commodities and services in such a way as to get equal marginal utilities from each commodity. Our wants are unlimited, but the time to enjoy is short. And most of us do not possess sufficient means to satisfy our wants. Hence, as all of us want to get the best out of our income, we spend the total money income on the different items of expenditure in such a way that the marginal utility from each item is equal. If any individual finds at any time that by spending an additional rupee on tea rather than on cigar, he can get greater satisfaction, he would buy more tea instead of more cigar. Every one of us is thus measuring, consciously or unconsciously, the marginal utility of each commodity against that of another. We go on substituting a thing that would yield us greater satisfaction in the place of another yielding less satisfaction, until the marginal utility from each of these commodities is just equal.

Fig. 4 illustrates the law of equi-marginal returns. Units of money are represented along OX , and OY measures the amount of utility obtained from money, whether spent on tea or cigar. The curve DD' measures the marginal utility obtained by spending money on tea, and dd' measures the marginal utility obtained from cigar by a consumer.

The graph shows that if the individual spends Oa amount of money on cigar, he will spend Ob amount of money on tea because in that case aa' , *i.e.*, the marginal utility of one unit of money spent on cigar, is equal to bb' , *i.e.*, the marginal utility of money spent on tea.

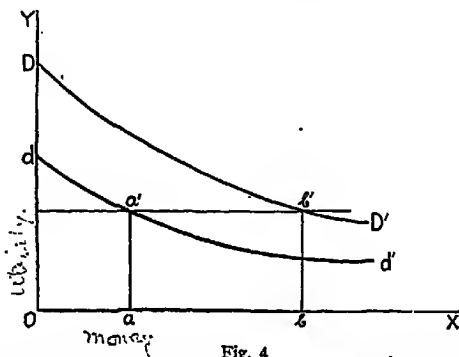


Fig. 4

We may, however, distribute our income in purchasing a present or a future satisfaction. That is to say, we may prefer to spend now, or at some future date. And we would arrange our total expenditure in such a way that we obtain equal satisfaction either from one unit of a present commodity or one unit of a future commodity.

In the field of production, a business man will always try to distribute his resources among the different factors of production so that his total profits will be the highest. He is constantly weighing in his mind the

As applied to production, the marginal productivities of the different factors of production,—land, labour and capital. If, at any time, he finds that he can increase his profits by employing more machinery in the place of more labour, he will do that. If he finds that an additional storey to his building will be less costly than an additional acre of land, he will build another storey instead of buying more land; *i.e.*, he will substitute more capital and labour in the place of more land. In this way, he will push his investment up to the point, where, given his resources, and given his opportunities, the marginal product of each unit of his resources, whether invested in land, labour or capital, is equal. Similarly, an agriculturist can grow either more jute or more rice on a piece of land. If he finds that the cultivation of more jute will yield him higher profits than that of rice, he will cultivate jute. In this way, in every field of production, either in agriculture or in industry, every entrepreneur is always spending his resources

on this or that factor or a combination of factors, until the marginal product of each factor is equal.

In the theory of distribution, the law serves to explain the share of each factor of production. Now, if we take a dynamic view of the

productive organisation, each factor can be substituted for another factor. As we have noted, every entrepreneur will push his investments either in land, labour, capital, or organisation, upto the point where the marginal productivity of each unit of a factor is equal. At this stage, the marginal productivity of each factor tends to be measured by its remuneration.

Thus the law of substitution is of fundamental importance in every field of economic activity. The law is closely related to the law of diminishing utility and the law of diminishing returns. If an increase in the stock of a commodity yields increasing satisfaction, instead of diminishing satisfaction, no one would have thought of substituting one commodity for another. It is only because the additional units of a commodity yield less and less satisfaction that we think of purchasing other articles. Similarly, if the increased application of any one factor of production, others things remaining fixed, would have yielded increasing, instead of, diminishing returns, no producer would substitute one factor for another.

It may be objected that the statement of the law ascribes a too much rational and calculating character to human nature. In spending our income, we do not consciously measure the utility of one commodity against that of another. Too often we buy from mere habit, or instinct. But as Chapman points out, "we are not, of course, compelled to distribute our incomes according to the law of substitution or equi-marginal expenditure, as a stone thrown into the air is compelled, in a sense, to fall back to the earth; but as a matter of fact, we do in a certain rough fashion, because we are reasonable."*

Two important deductions can be drawn from this law. From the operation of this law as applied to consumption, we can know the marginal utility of money. The marginal utility of money is the utility of an additional unit of money. Unless the utility of this additional unit of money was the same, whether spent on this or that commodity at the margin, we could not speak of a definite marginal utility of money. For, in that case, its utility would have varied as it was spent on this or that commodity.

Another important deduction from this law is the *doctrine of maximum satisfaction*. When the marginal utilities are equal, the total

Utility is the highest. Let us take a concrete example. Suppose a person can spend

Rs. 5 either on tea or on cigar. Obviously he will want to get the maximum satisfaction from his money. Now suppose,

* Chapman. *Outlines of Political Economy*. Page 48.

If he spends Re. 1 (being one unit) on tea, he will get satisfaction worth Rs. 8.

If he spends another rupee on tea, he will get satisfaction worth Rs. 7.

If he spends one more rupee on tea, he will get satisfaction worth Rs. 5.

If he spends one more rupee on tea, he will get satisfaction worth Rs. 3.

If he spends one more rupee on tea, he will get satisfaction worth Re. 1.

Again if he spends Re. 1 on cigar, he gets satisfaction worth Rs. 6.

If he spends one more rupee on cigar, he gets satisfaction worth Rs. 5.

If he spends one more rupee on cigar, he gets satisfaction worth Rs. 4.

If he spends one more rupee on cigar, he gets satisfaction worth Rs. 2.

If he spends one more rupee on cigar, he gets satisfaction worth Re. 1.

Now if he spends the whole of Rs. 5 on tea alone, he will get satisfaction worth Rs. 24, or on cigar alone he will get satisfaction worth Rs. 18. If he spends Re. 1 on cigar,

Total utility is maximum when marginal utilities are equal.

and Rs. 4 on tea, he gets satisfaction worth Rs. 29. If he spends Rs. 2 on cigar, and Rs. 3 on tea, he gets satisfaction worth Rs. 31.

But if he spends Rs. 3 on cigar, and Rs. 2 on tea, his satisfaction is measured by Rs. 30. Thus we see if he spends Rs. 2 on cigar and Rs. 3 on tea, he gets the maximum satisfaction; and the utility of the last unit of money, *i.e.*, marginal utility devoted to the purchase of tea, (*i.e.*, 5) is exactly equal to that spent on cigar (*i.e.*, also 5). *Hence when the marginal utilities are equal, total utility is the highest.* This is known as the Doctrine of Maximum Satisfaction.

Consumer's Surplus: The doctrine of consumer's surplus is a deduction from the law of diminishing utility. The price that we pay for a thing measures only the marginal utility, but not the total utility. Only on the marginal unit, which a man is just induced to buy, the price is exactly equal to the

It is deduced from the theory of diminishing utility.

satisfaction that he expects to get from that unit. But on other units that he buys, he enjoys some extra amount of satisfaction. He would be willing to pay higher prices for these units than what he actually pays for them. The difference between the amount of satisfaction which a consumer obtains from purchasing things over that which he foregoes by paying money for them is the economic measure of consumer's surplus. It represents the excess of satisfaction that he secures, the excess being equal to the difference between the utility of the goods

acquired and that of the goods sacrificed. Had he been deprived of the commodity, he would then have been forced to spend the money on the purchase of other commodities from which he does not derive the same amount of satisfaction as before.

In order to give definiteness to our ideas, let us take up the example of shoes given before. As we have stated already, from the first pair of shoes, a man expects to get satisfaction worth at least Rs. 6; from the second, he expects *additional* satisfaction worth Rs. 5. From the third, he expects *additional* satisfaction worth Rs. 4. Suppose he is just induced to buy three pairs and no more. Since in a market, there cannot be more than one price, the price that he pays for each pair is measured by that of the marginal pair, i.e., by Rs. 4. He will

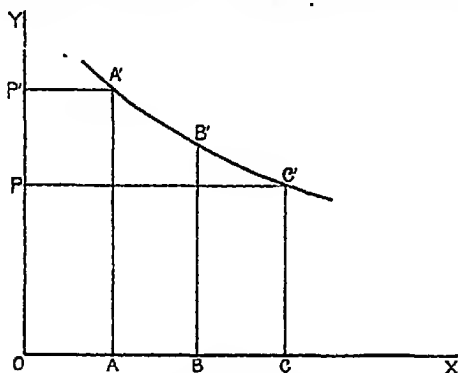


Fig. 5

pay in all for the three pairs, (4×3) or Rs. 12. But by hypothesis, he is enjoying from the three pairs an amount of satisfaction worth $(\text{Rs. } 6 + \text{Rs. } 5 + \text{Rs. } 4) = \text{Rs. } 15$. Hence he enjoys a surplus of satisfaction from his purchase worth $(\text{Rs. } 15 - \text{Rs. } 12) = \text{Rs. } 3$. *Consumer's surplus is then measured by the difference between the total utility and the marginal utility multiplied by the number of units purchased.*

Fig. 5 illustrates the amount of consumer's surplus that an individual obtains from the consumption of a commodity. In fig. 5, price or utility is measured along OY, and the quantity is measured along OX. For OA amount of a commodity, an individual is willing to pay AA', i.e., he expects to get at least OAA'P' amount of satisfaction. Otherwise he will not pay a price equal to AA'. For AB amount, he will pay a price equal to BB'. That shows that he expects to derive ABB'A' amount of satisfaction from AB units. For the BC unit, he will pay CC' price which means that he expects to get from

it satisfaction equal to the area $BCC'B'$. Supposing he purchases these three units, OA, AB and BC at the price CC' , the aggregate sum of money that he spends is measured by the area $OCC'P$ (i.e., $OC' \times CC'$). Hence the consumer derives from the purchase of OA, AB and BC units surplus satisfaction measured by the area $PC'A'P'$.

The amount of surplus satisfaction depends, in the words of Marshall, on our *opportunities*, or *conjuncture*. In modern societies, many articles are produced with great ease and with low cost, and hence sold at very low prices, whereas the satisfaction that we get from them is often very great. But in the less developed communities, the satisfaction that we would get from a commodity would seldom exceed the dissatisfaction or the disutility of producing it.

Difficulties of measuring consumer's surplus: Certain difficulties have to be faced in measuring consumer's surplus in terms of money. It must be assumed that the spending of more or less money does not affect the marginal utility of money, or if it affects at all, must affect it in such a slight manner that it can be ignored. This assumption is justified

We must assume the marginal utility of money to be unchanged throughout.

only when the expenditure on any particular commodity forms only a very small part of the total income. But when we have to consider the case of commodities, the expenditure on which forms a substantial part of the total income, the increase or decrease of expenditure will alter the marginal utility of money and thus vitiate our conclusions.

This difficulty is real, and limits the utility of the doctrine. Marshall's reply to this criticism was that this difficulty was present in all economic problems, and so was not special in the case of this doctrine. J. R. Hicks* has suggested a solution for this difficulty. According to him, the best way of looking at the problem is to conceive of consumer's surplus in the nature of a gain in money income caused by the fall in the price of a commodity. Suppose a person will buy 4 pairs of oranges at 10 pice a pair, and if the price falls to 6 pice, he may decide to purchase only 4 pairs of oranges at 6 pice per pair, and his money income will then have increased by 4 as, which he may spend on other commodities. Most probably with the relative change in prices, he may decide to buy more oranges, and less of other commodities, and so make himself better off. In any case, we can conclude that the consumer's surplus that he derives from the fall in the price of oranges will not be less than 4 as.

Another difficulty arises when the aggregate consumer's surplus in a market from the consumption of a particular commodity is to be measured in terms of money. For in a

Differences of wealth. market composed of different classes of people, some of whom are rich and others are poor, the spending of a rupee means greater sacrifice to the poor than to

* *Value and Capital*. P. 38-41.

the rich. Moreover, even if all persons possessed equal incomes, the tastes or sensibilities of different persons would vary. One person may desire a thing with greater intensity than another and hence he may be willing to offer a higher price for that thing; or alternately, even after paying the same price as the other person, his satisfaction will evidently be greater. But these difficulties

Differences in sensibilities do not put an insurmountable obstacle in the way of measuring the consumer's surplus in a market. For when we consider the case of a large number of people, the law of averages comes into operation. The high sensibility or wealth of a few persons for a thing will be balanced by the low sensibility or poverty of others so that on the average, such differences of tastes or incomes may be neglected.

Some economists, like Patten, have argued that as a person goes purchasing more and more units of a commodity, the intensity of his desire for the earlier units diminishes. In other words, as he increases his purchases, his demand prices for the earlier units fall, along with his satisfaction from their consumption. So our measurement of consumer's surplus would be inaccurate. To take our example of shoes, as the person goes on buying shoes, his satisfaction from the first pair diminishes, and is much less than Rs. 6 when he buys the third pair. But "it is highly improbable that a *slight* change in the consumption of anything would have an appreciable influence upon the utility of the earlier increments, because a considerable change in consumption is necessary to make us aware that any change in 'commonness' has taken place."*

Moreover, this misconceives the method of determining the lists of demand-prices. The objection would have been valid, if the list of demand prices indicated the average utility of the units. In our example, the utility of the first pair of shoes is Rs. 6. When he buys the second pair at Rs. 5, the average utility of the two pairs will be Rs. 5½. When he buys the third pair at Rs. 4, the average utility of a pair falls to Rs. 5. Hence if our demand curve measured only average utility, then as a man went on buying more and more of a thing, the average utility of the earlier units would have fallen. But the list of demand prices indicates *additional* utility of additional units. The utility of the second pair is the utility that a person gets, *in addition* to the utility of the first pair of shoes. And this utility is measured by Rs. 5. In that case, the subsequent purchases would not affect the utility of the earlier purchases. And so the objection is not valid.

Another difficulty is that we cannot draw the earlier portions of the demand curve which are purely hypothetical. We ourselves do

* Pigou. "Some remarks on utility" in the *Economic Journal* 1903, page 65.

not know how much money we would offer, if we are threatened with the almost complete loss of a commodity. We do not know the full demand schedule. For example, we can not know, except by mere guess-work, what a person will be willing to offer for one pair of shoes, had it been known that there is only one pair of shoes in existence. Hence the demand-price for a commodity is a mere guess-work except in the neighbourhood of customary prices. But this is a mere *theoretical* difficulty, and not a very serious one. For, the practical applications of the doctrine are concerned more with the reactions on the amounts of satisfaction consequent on changes in prices in the neighbourhood of customary prices, than with hypothetical scarcity prices. What we want to measure is the changes in the aggregate consumer's surplus made by small changes in prices (*e.g.*, in problems of taxation). And for this purpose, our list of demand-prices, though defective, is fully sufficient.

Some difficulty is introduced in the measurement of consumer's surplus, owing to the presence of substitutes, or complementary goods. Tea and coffee are often taken as the typical example of substitutes. If tea could not be had at all, people would take to coffee. Their loss of satisfaction owing to the absence of tea would be substantial no doubt, but if both tea and coffee were absent, their loss would be far greater, for in that case, they would have no coffee to fall back upon. Thus the total utility of both tea and coffee is greater than that of tea *plus* that of coffee determined on the supposition that when one is absent the other is present. Hence even if we add together the total utility obtained from both tea and coffee, that would not measure the total amount of satisfaction from their consumption. To meet this difficulty, Marshall suggests that in these cases, we should consider both tea and coffee as *one* commodity; and group the goods, which are substitutes, under one common demand schedule.

To determine the total utility of a commodity, which is one of the necessities of life, is a very difficult task. Often the satisfaction from their consumption is negative. That is, we do not actually feel any positive satisfaction from them. But we would seriously miss their loss. Rather than be deprived of them, we would offer everything we possess. The consumer's surplus is thus often indefinite. This is true, not only of necessities of life, but also of *conventional necessities*. In order to meet this difficulty, we may adopt the suggestion of Patten, and distinguish between a "pain economy" and a "pleasure economy." The first is the stage when a person consumes only the absolute necessities to support life, "to prevent hunger, thirst, freezing; to ward off pain, not to yield satisfaction." The second stage begins after the first, when a person has got more than enough to support life, when positive satisfaction begins. Consumer's surplus can be measured only in the second stage.

The consumer's surplus from necessities is often negative and indefinite.

Similarly, with regard to commodities which satisfy primarily the desire for distinction, the total consumer's surplus is often indefinite.

Consumer's surplus of articles possessing prestige value is indefinite. These things (e.g., diamonds) possess prestige value. And the satisfaction from such articles would decrease materially, if their price falls from the high level. For example, if the price of diamonds falls from the present level, its high utility to the present users would vanish. Hence in the case of such articles, a fall of prices will not always increase the amount of consumer's surplus.

Prof. Nicholson has cast serious doubts on the utility of the whole doctrine. "Of what avail is it to say that the utility of an income of (say) £100 a year is worth (say) £1,000 a year?" According to him, the doctrine is purely hypothetical and arbitrary. This is not correct.

The doctrine is hypothetical, and unreal. The doctrine points out the very important benefits that we derive from our economic environment, if we compare the conditions *now* with those of some *past* period, or the conditions of one country with those of another. For, as Marshall points out, the question would be of some avail if we compare the conditions in Central Africa and London. There are many things, many amenities of life, which are available in London, but not in Central Africa. Hence we can say that a person with an income of £1,000 in Central Africa is almost as much well off as a similar person with £100 in London. Moreover, it must be pointed out that ordinarily we do not want to measure the total utility of income, but we want to know the amount of changes in consumer's surplus due to small fluctuations in prices. And for this purpose "the engine which he (Marshall) has devised, though limited in range, can therefore often serve us."

Though the exact measurement of consumer's surplus is not always possible, the doctrine is, however, not fanciful. It is neither hypothetical, nor unreal, because it is a generalisation from our ordinary ideas. "Though that surplus may not be clear at the lower end of the scale of consumption, where bare necessities alone are bought, or at the upper end, where mere vanity is satisfied, it is unmistakable in regard to what may be called the true enjoyments of life."

Theoretical and practical utility of the doctrine: The concept of consumer's surplus was first introduced by Marshall, "to put familiar language in a firm compact shape, ready to serve as the basis for further study."

It measures the differences between value-in-use and value-in-exchange. The doctrine points out the important fact that the price of a commodity does not always indicate the exact amount of satisfaction derived from it. It provides a satisfactory explanation of the fact that for many commodities of ordinary use, like salt etc., the value-in-use and the

*Pigon. "Some remarks on utility" in the *Economic Journal*, 1933, p. 66

value-in-exchange differ, and it provides a tool for a somewhat rough measurement of this difference. *Secondly*, it

It enables us to compare conditions of different periods.

enables us to compare the amount of *real* of one country enjoys in relation to that of income, or the flow of utilities that a member of one country enjoys in relation to that of the members of another country; that he enjoys during the present period in relation to some past period. *Thirdly*, it may be of some importance to the monopolist. He may fix the price of his articles

It is of great importance in problems of the theory of monopoly.

so high as to leave no consumer's surplus to any customer. But in that case, he may have to fear the opposition of the consumers, or public intervention. So with a view to safeguard his monopoly, he may lower his prices so as to leave a certain amount of consumer's surplus. He will be prompted to do it the more so, if he is actuated by the regard for public welfare, or for extending

It helps us to measure the gain from international trade.

his future business. The present low prices, by making the people familiar with the use of his article, would ultimately lead to an increase of demand, and hence to increased profits. *Fourthly*, as Marshall points out, the gains from international trade may be measured in terms of an increase of consumer's surplus obtained by the inhabitants of the countries trading with each other.

It enables us to measure the effect of changes of taxes on commodities.

Fifthly, the doctrine is of special importance in problems of taxation. It may be of service to the Finance Minister in deciding how much injury would be done to the consumer's surplus by an additional tax of a few annas per maund on salt, or on sugar. If the commodity is one, whose production obeys the law of increasing returns, the price of the article would be raised by *more* than the amount of the tax; whereas, if it obeys the law of diminishing returns, the price would be raised by *less* than the amount of the tax. Hence the loss of consumer's surplus would be larger in the first case than in the second case. *Prima facie*, other things being equal, a tax on the second type of commodities is to be preferred to that on the first. The opposite happens in the case of bounties. Thus interlaced with many intricate problems of economic theory, the doctrine of consumer's surplus remains a very serviceable engine for the discovery of concrete truth.

CHAPTER 6

WHAT IS PRODUCTION?

In ordinary use, production means the creation of material things. But man cannot create matter. It is given by Nature. What man can

do is to change the shape or form or size of the material things given by Nature. We cannot create iron ores or coal. We can only utilise them. Coal that is under the bowels of the earth is brought above the surface and is used in various ways. That is what we mean by "the production of coal." The labour of man cannot create even one atom of matter. Hence production cannot mean the creation of material things.

Production, in economics, means the creation of utilities. Man changes matter so as to make it more valuable. The timber in the forests is certainly valuable. When it is brought to the cities it becomes more valuable. More utility has been added to the timber. So the act of transferring it from the forests to the cities is a productive act. Further, when the timber is used by men and made into chairs, tables, etc., the latter are more valuable than the timber. Hence this act is also productive.

The utilities that can be created are of three kinds:—*form, place and time* utilities. A change in the form, shape, weight, colour, smell or any other quality of a thing which imparts

Three kinds of utilities. some utility to that thing, which increases its capacity to satisfy human wants, is the creation of form utility. Further, a thing may be made more useful by bringing it from the place where it is abundant, to a place where it is rare. As a result, its utility increases. This kind of utility goes by the name of *place utility*. Traders and merchants create place utility. Lastly, a thing may be plentiful in one season of the year, but scarce in another season, or a thing might be abundant in a good year, but scarce in a lean year. If the commodity in question is preserved from one season to another or from one year to another, a higher utility is imparted to that commodity. This preservation creates *time utility*.

Productive and unproductive labour: The idea that some kinds of labour are of special significance while others are not is as old as Aristotle. He classified certain functions, *e.g.*, agriculture as "natural"; while mercantile trade and exchange were regarded

Only labourers who produced material goods were considered productive. by him as "unnatural". This idea appeared in different forms in different writers. The

Mercantilists, for example, regarded all foreign trade which resulted in

a large import of specie as the best of all occupations. The Physiocrats, the precursors of the modern economists, however, looked upon the merchants as belonging to a "sterile" profession, which did not yield any net product, or surplus. According to them, agriculture was the productive occupation *par excellence*, because Nature's bounty yielded a large surplus of production. The concept broadened at the hands of Adam Smith, who classified not only agriculture, but all trade and other allied professions as productive. According to him, *only such labour as turned out vendible commodities or material goods was productive*. Not only the manual labourers, but also those by whom the operations were guided and promoted—the foreman, the engineer and the manager were regarded as doing productive work. Even then, Adam Smith "excluded not only menial servants and some of the most frivolous professions such as players, buffoons, musicians, opera-singers, opera-dancers; but also some of the gravest and most important such as churchmen, lawyers, physicians, men of letters of all kinds, 'even economists presumably'".

This distinction between productive and unproductive labour, as based on the turning out of "material" goods, also appeared in the writing of J. S. Mill. But these writers failed to see that this distinction would lead to many inconsistencies. Let us take the case of musicians. The labour of a musician was regarded as "unproductive" because it did not result in the production of material goods. But the maker of a musical instrument was classed as productive. If those who used the instrument are regarded as unproductive, then why is the instrument made at all? And why regard the labour of producing it as productive? If the maker of the instrument is productive, its user must also be so. Man, as it has been stated, does not produce matter. What he does is simply to increase the utility of things given by Nature.

The modern standpoint is that *all whose labours satisfy wants should be regarded as productive labourers*. "So long as a person who buys a thing or pays for a service really *desires* it, the labour which yields him the satisfaction is productive." The labour of a professor, a lawyer, a soldier or a judge is productive in this sense. Only persons who are to be excluded from the class of productive labourers are those who could not finish their labour, or who produced things for which there is no demand.

Now the question arises whether the labour of those who do not contribute to material welfare, whether directly or indirectly, are to be regarded as productive. Take, for instance, the maker of a quack medicine. Is his labour to be regarded as productive? Obviously yes, because so long as the purchaser wants that sort of thing and is willing to pay a price, he must be obtaining

Labour directed towards the satisfaction of a want is productive.

Is labour whose services do not contribute to welfare productive?

some satisfaction from it. If we once begin to exclude goods and services which do not appear to us to promote economic welfare, we shall never know where to stop.

Factors of Production: All productive operations are the result of the co-operation of several agents. What are these agents or factors of production? The classical economists recognised three factors of production, *viz.*, land, labour and capital. Land in economics does not refer only to the surface of the earth; it includes 'the materials and the forces which Nature gives freely for man's aid in land and water, in air, light and heat.' It includes agricultural land, rivers, mines, light, etc. By labour is meant any type of human activity, whether physical or intellectual, which is not undertaken for the sake of pleasure only. Everyone is a labourer, whether he is a mathematician or a coolie. By the application of labour to natural elements we obtain certain material objects, which are further utilized in production. These material objects which are embodiments of past labour and which help the present processes of production are known as capital. But with the growing development of business organisation, the functions of a separate agent became quite clear. So a fourth factor was added to be known as organisation.

The labour of directing and organising a business enterprise is called organisation. Organisation is of utmost importance in these days of mass production. The main function of organisation is to co-ordinate the different factors of production in proper proportions so as to get the maximum yield with the minimum of cost.

CHAPTER 7

LAND

Land, in economics, refers to all the natural resources of a country. It, therefore, includes not only the total area and the different kinds of soil, but the climatic conditions, the heat, air, light, the mines and forests, river and sea fisheries, water power of all kinds, etc. Land plays a vital part in the economic life of the people. It provides the sites for the houses, factories, gardens; yields the food which sustains life and provides all the materials on which man works. The most important fact which the economist has to face with regard to land is the great inelasticity of its supply as compared to other factors. The supply of land cannot be increased as rapidly, or with as much ease as the supply of other factors. As population increases in a country, less land has to be associated with each individual worker. When this happens, the total output per individual worker tends to decrease continuously. This tendency is known in economics as the law of diminishing returns.

The Law of Diminishing Returns: One of the most fundamental doctrines of economics, the law of diminishing returns is nothing but a generalisation drawn from the actual experience of farmers. Indeed, a Scottish farmer is said to have been the first to state this law. The experienced farmer knows that he cannot raise an unlimited amount of produce profitably from one acre of land. As he cultivates a particular piece of land more intensively, the produce does not increase in the same ratio. If one puts forth double one's effort in cultivating one acre of land, at first the total output may be doubled or more than doubled. But if the quantity of labour and capital is doubled a second time, the total output will not be doubled; it will be less than double. This is the law of diminishing returns, which has been stated by Marshall in the following terms:—"An increase in the capital and labour applied in the cultivation of land causes in general a less than proportionate increase in the amount of produce raised, unless it happens to coincide with an improvement in the art of agriculture."

Let us illustrate the law. In the next table three bighas of land are cultivated, at first by one labourer, then by two and so on. Each of the labourers is equipped with (say) a plough and other necessary agricultural tools; and the land is adequately manured and irrigated. The third column shows the total product in each case, and the last column shows the additional product due to the employment of the additional labourer.

It is evident from this table that at first if another labourer with proper equipment is added to the one already working, total product

LAND	LABOURER	TOTAL PRODUCT	ADDITIONAL PRODUCT
3 bighas	1 labourer	35 maunds	.
3 "	2 labourers	75 maunds	40 maunds
3 "	3 labourers	112 maunds	37 maunds
3 "	4 labourers	152 maunds	30 maunds

may increase by more than in the first case. But if a third man is added to cultivate the same land, the additional product does not increase in the same ratio. This is the point of diminishing returns.

The curve in Fig. 6 represents the law of diminishing returns. OX measures the amount of labour and capital applied to a particular piece of land and OY measures the additional product. At first, the land may not be adequately cultivated, and as more and more units

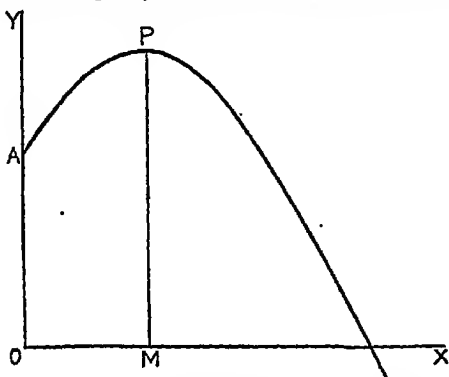


Fig. 6

of labour and capital are applied, the returns may increase more than proportionately. This is represented by the upward slope of the curve from A to P. After the stage P is reached, any further application of

labour and capital will cause the returns to increase at a diminishing rate. So the curve slopes downwards from that point.

Here it should be noted that the law refers not to the price, but only to the total volume of the produce. Another thing that must

be remembered is that the law does not state that the returns or produce diminish. Total produce increases, but increases at a *continually diminishing rate*. It is a case of diminishing increment. Another fact to be noted is that the diminution in produce is not due to the decline in the fertility of land after continuous cultivation. In stating the law of diminishing returns, we assume that the fertility of the soil remains constant for the time being. The application of more labour and capital to a fixed area of land will yield diminishing returns. The fact is that the supply of land, from the social point of view, is more limited than that of other factors of production. Of course, neither of the four factors is unlimited in supply. But the supply of land is more inelastic than that of others. In modern communities, labour and capital are increasing at a faster rate than land. Hence more capital and labour have to be applied to land as it grows more scarce. As this is done, the total produce tends to increase at a diminishing rate.

The tendency towards diminishing returns operates in two ways. First, as it becomes necessary to raise more produce, the farmer may begin to cultivate lands of inferior fertility, or less advantageously situated than the former lands. Hence the return to his labour will decrease in the second case. This is known as *extensive* cultivation. Secondly, the farmer may apply more labour and capital to the same land which he cultivated before. In this case also the yield will be less than that in the first case. This is known as *intensive* cultivation. Marshall assumed that a farmer applied labour and capital to a plot of land in successive "doses", each consisting of a given amount of labour and capital. As a cultivator applies more and more doses of labour and capital to his land, the additional produce due to each successive dose decreases. A stage will come when the additional returns due to a particular dose of labour and capital will be exactly equal to the cost incurred on account of the labour and capital. This *dose* of labour and capital is known as the *marginal dose*. And the land to which this dose is applied is known as the *marginal land*.

The law is based upon certain assumptions. The first assumption is that the land is already utilised in the best known manner. Adequate amounts of labour and capital have already been applied in the cultivation of the land. It may be that a particular piece of land has been so under-cultivated that a further application of labour and capital yields, not diminishing returns, but increasing returns. Hence we must assume that the land has been cultivated in the best possible manner. *Secondly*, it is assumed that agricultural skill and knowledge, and methods of cultivation remains the same. There is no discovery of new resources, no change in the technique of production, no new

invention or scientific discovery. If a new invention, or a change in the technique of agricultural production increases the productivity of existing lands, the operation of the law may be entirely counteracted for the time being. For example, after 1919-

Limitations of the Law. 1920, there occurred an increasing use of machineries in agricultural production and great application of science to agriculture. The result has been an over-production of farm products. Under such circumstances, the law is clearly held in check. But the operation of the law is not completely stopped. The tendency is there, and the moment man stops his unceasing search for scientific progress, it will come into operation. Those who deny the existence of this law seem to forget that but for this law, it would have been an easy task to supply the world's total food requirements by cultivating only one acre of land.

The law of Diminishing Returns as applied to spheres of production other than agriculture: So far we have considered the application of the law to agriculture. The law equally holds good in other spheres of production, *viz.*, mining, urban land, fishery and indeed in all sections of industry.

In *mining*, if there is no improvement in the arts of mining, the tendency to diminishing returns shows itself. Apart from the possibility that the deposits in the mine will be exhausted sooner or later, it becomes necessary in most of the mines to go deeper for an increased

The Law of D. R. in mining. supply, with a resulting rise in cost. The cost rises as the cost of lifting deposits increases. As the mines are to be worked deeper the internal structure of the mines must be made stronger; better lighting and airing systems must be introduced and thus cost goes on increasing and there is a tendency to lessening yield with increasing depth.

In *urban land*, the law is also operative. In modern days of steel-frame construction sky-scrapers can be built with twenty, thirty or fifty stories. Sooner or later, however, a stage is reached where the gain from building up additional stories tends to diminish. The poorer light and air on the lower floors, the

In urban land. cost of lifting goods and materials, the difficulties of supervision begin to tell, and tell the more and more stories are added. The tendency to diminishing returns asserts itself.

In *fishery*, especially in *river fishery*, there is a limit to increasing returns from an increasing application of labour and capital. The

In fishery. available supply of fish in a river, like the fertility of land, is limited; hence a point comes after which an increase in the supply of labour and capital gives but a diminishing rate of increase in the catch. In sea fishery, however, the supply being very great, there is hardly any tendency to diminishing returns.

In recent times it is being increasingly recognised that the law of diminishing returns is not applicable only to the case of land. In our statement of the law, we assume that the supply of land is kept fixed, while increasing quantities of other factors are applied to land. In this case total produce increases at a diminishing rate. But this holds good in every sphere of production. Whenever a fixed supply of any factor of production has to be worked with increasing quantities of other co-operating factors, the total produce tends to increase at a diminishing rate. Modern writers now speak of a *law of variable proportions*. For technical or other reasons, it may become difficult to increase the supply of a factor of production; or the additional supplies that are available are of inferior quality. If it becomes essential to increase the output, other factors of production will be combined with a fixed supply of that factor, or with larger amounts of the same factors, but of inferior efficiency, the expenses of producing the additional output will tend to increase. It is not necessary to assume that the proper combinations of factors have not been made. Even if the employer is fully efficient, it may not be possible to increase the supply of some one or other agent of production. This is of especial importance in the case of land. The supply of good land is fixed. If it becomes necessary to increase the production of agricultural goods, recourse must be had to land of inferior quality, or the good lands may have to be cultivated more intensely than before. Hence the total produce will not increase proportionately. The same is true with regard to capital and other factors. Even if an efficient employer may have to combine increasing quantities of other factors along with a fixed amount of capital, the additional output will then be raised at higher cost per unit. The marginal cost of production will tend to increase when a larger output is produced. Whenever a fixed supply of a factor or a number of factors is associated with increasing supplies of other agents, the tendency asserts itself. Re-stated in this way, the law of diminishing returns is of universal application in all spheres of production.

CHAPTER 8

SUPPLY OF LABOUR AND THEORIES OF POPULATION

Supply of Labour: Of all factors of production, the human element is the most important. The volume of production of a country depends upon the total available labour supply. Hence the importance of the population problem. Man is not only a means of production; he is also the end of production. The problem of population is, therefore, of double importance to the economist. He is interested in man as a producer of wealth and as also a consumer of wealth. In this chapter, our endeavour will be to study the laws according to which the number of population is determined and on what does depend its quality. The supply of labour depends not only upon the number of the population but also upon its quality. The total number of population in a country depends upon birth and death rates, migration and immigration, of which the first two are the most important.

The Malthusian Theory of Population: The celebrated Malthusian theory of population was stated by Thomas Malthus in the year 1798, which saw the publication of his anonymous book, "Essay on the principle of population as it affects the future improvement of society."

Essentially his theory is that the fecundity of human beings is infinite. Because of the sex instinct, population *tends* to increase at

The population increases in G.P. while the food supply increases in A. P.

a very fast rate, and has been known to double itself in about twenty-five years. That it does not always do so is due to a variety of reasons, such as war and disease; but the principal cause is the lack of means of subsistence.

Food supply, according to him, does not increase as rapidly as population. In Malthus's language, the food-supply tends to increase in arithmetical progression, while population has a tendency to increase in geometrical progression.

Malthus lays it down from a study of the conditions of America that population doubles itself in every twenty-five years. But the food-supply cannot double itself every twenty-five years. Population will, therefore, have a tendency to outstrip the food supply of a country. This has happened in the past, and this is likely to happen in the future.

Hence the growth of population, if otherwise unchecked, would be held back due to the lack of the means of subsistence. Now the growth of population can be checked in two

Positive checks will come into operation unless preventive checks are adopted.

ways, either by diminishing the birth rate, or by increasing the death rate. The birth rate can be checked by means of "foresight, moral restraint, late marriage". etc. These were called "*preventive checks*". The increase in the death rate might be

due to disease, famine, war, etc. These were called "*positive checks*". If the growth of population is not restrained by the adoption of preventive checks, *i.e.*, by controlling birth rates, it will ultimately be checked by positive checks, *i.e.*, by high death rates, causing much misery. In fact, preventive checks are always in operation. "In proportion as mankind rise above the condition of the beasts, population is restrained by the fear of want, rather than by want itself". Except in a very backward state of society, increase of population is kept within bounds, not by excess of deaths (*i.e.*, positive checks), but by limitation of births, as the result of prudent self-restraint. And Malthus exhorted his countrymen to adopt preventive checks to an increasing extent, thereby keeping the growth of population within proper limits.

This is the Malthusian theory. It should be noted here that the theory is intimately connected with the law of diminishing returns. With the growth of population, as land is cultivated more intensely, output increases at a diminishing rate. This is the crux of the situation. As population is doubled and so more labour is applied to land, food-supply will not increase in the same ratio. Hence we are faced with the problem of shortage of food-supply and of starvation.

Criticisms advanced against the Malthusian theory of population: The facts of economic development in the 19th century have

History has falsified his predictions.

completely belied Malthus's gloomy prognosis. While Malthus was writing his thesis, the industrial revolution had already begun. The 19th century saw an enormous increase in the productive capacities of the world as a result of the spread of that revolution. Population increased rapidly in all countries, but the standard of living also rose considerably. The twentieth century is now witnessing a large increase in agricultural production through the adoption of the methods of scientific farming and the application of machinery. Thus while changes in agriculture and industrial production far exceeded his estimate of the growth of the means of subsistence, the gradual adoption of the methods of birth-control made a great difference to his expectations about the future increase of population. Indeed some of the western countries are now faced with the problem of a declining population.

Many criticisms have been advanced against his theory to show that not only his predictions about the future have been falsified, but that his theory is untenable. *First*, the mathematical formula that while food supply increases in arithmetical progression, population increases in geometrical progression cannot be maintained. In fact,

The mathematical formula is not correct. the food supply increased more than in the arithmetical progression. But it should be remembered that the mathematical formula was only a convenient way of stating his premises. Unfortunately for

the human race, the essential validity of the Malthusian principle of population is not destroyed by the substitution of an accurate account of the growth of the food supply for the fallacious arithmetical ratio.

Secondly, it is argued that the growth of population should be viewed, not in relation to the increase in the *food supply only*, but in relation to the *total wealth of the country*. The agricultural production of a rich country may be very small as compared to the needs of its population. But it can exchange its wealth for the food-stuffs of other countries which possess an excess. England produces an amount of food-stuffs sufficient for a small part of her population. But as she is industrially advanced, she easily exchanges her coal and other manufactured products for food-stuffs from the new and undeveloped countries.

Thirdly, as Cannan pointed out, Malthus failed to take into account the increment of labour that came about with every increase in population.

An increase in population may lead to increasing returns in agriculture and industry.

Every person born into the world comes not only with a mouth and a stomach, but also with a pair of hands. An increase in population means an increase in the supply of labour, which may make it possible to

secure increasing returns in agriculture and industry. A larger population may mean a better division of labour, and a greater chance for the application of machinery to agriculture. Agricultural production will increase enormously. Moreover, even "if a growth of population did tend to diminish agricultural produce per head, it might still be desirable in consequence of its increasing other produce per head."

For these reasons, Seligman pointed out that *the problem of population was not one of mere size, but of efficient production and equitable distribution*. An increase in population may enable a country to secure a better division of labour, which would not have been possible with a smaller population. The resulting increase in productive efficiency may enable it to support its population on a higher standard of living. Moreover, a more equitable distribution of income and wealth will make it possible to support a larger population than at present.

Malthus has, therefore, been regarded as a false prophet. The spread of the knowledge of birth-control has led to a decline in the birth rate. Similarly, the spread of female education had also led to the same result. This has meant not only late marriage for girls: but the educated girls are showing a great unwillingness to have a big family. A rise in the standard of living also results in a fall of the birth rate. As the standard of comfort increases, people find it difficult to earn a decent living till a very late period in life. Hence they are forced to marry late. They are also unwilling to have a big family, as that means a fall in their standard of life. "Whether a baby or a car",—this is the problem for the young couple, and often the car wins.

The Optimum Theory of Population: Modern economists are nowadays more concerned with the relation between the size of the

Meaning of Optimum. population and the productive efficiency of the country. They no longer speak of a maximum population consistent with the means of subsistence. On the other hand, it is being increasingly accepted that at any given time, there is an optimum population for a country. The *optimum* population is that population which provides the greatest real income of commodities and services per head. Any increase or decrease in the size of the population above or below the optimum number will diminish the real income of the community.

Assuming a certain stock of natural resources, a given productive technique, and a given amount of capital in a country to be used, there

The central points in the theory of optimum population. is a definite number of population which will maximise the real income per head. If the population is very small, there will be little

opportunity for the specialisation of work among the different workers. In order that there may be fullest division of labour, the population must grow to a considerable size. The larger the population, the wider will be the market for various products. There will be more scope for further division of labour and for large-scale production. This will lower the real costs of production per unit of output.

The point of optimum population is reached when the income per capita reaches the maximum. As for every firm, there is a best

The point of optimum is reached when the income per capita is highest. possible combination of land, labour, capital and organisation, which gives the maximum return and the maximum marginal productivity per labourer, so for every country, given the supply of land, the condition and

development of industry, there is a number of labour supply (*i.e.*, population), which can bring about a maximisation of national wealth, *i.e.*, when the income per head of population is the highest. In our hypothetical firm, any decrease or increase in the number of labourers reduces the maximum marginal productivity. In the case of a country also, other things remaining the same, there is some population, any increase or decrease of which will reduce the per capita income. Thus even a community of millionaires may be overpopulated, if a reduction in the number of millionaires increases the per capita income of the rest.

One thing to be noted is that the point of optimum is not a fixed point, because, as assumed above, other things are not equal. We are

The point of optimum is not a fixed point, but a movable one. living in a dynamic society. The mistake of Mill lay in assuming that in any given area, the best number of population was fixed for all time to come. With the improvements in

arts of agriculture and industries and with new inventions, the

optimum moves from point to point, *i.e.*, the number of population that earns the highest income per head changes with improvements and inventions. Thus the optimum is a point, but a movable point.

Dalton deduces the meaning of over-population and under-population from this conception of 'optimum'. In each case, there is a maladjustment of actual number to the optimum. *Maladjustment* is a function of two variables. If M represents the degree of maladjustment, O the optimum, and A the actual number of population, then

$$M = \frac{A - O}{O}$$

When M is equal to a positive number, this is an indication of over-population; and when M is negative there is clearly a case of under-population. As in our present state of knowledge, changes in O can not be measured, this formula is of doubtful utility to us. But the steps by which the definition is arrived at are very instructive. O is determined for any area by the interplay, under the influence of hypothetically changing numbers, of two factors, *natural resources per head* and *facilities for economic co-operation*, including co-operation with the inhabitants of other areas. As A increases hypothetically from zero to O , the first factor diminishes, but the second increases and outweighs it. As A increases beyond O , the first factor continues to diminish and outweighs any further increases in the second. During outbursts of economic progress, the second factor increases with exceptional rapidity and O tends to increase with it. During war and in periods following war when political frontiers are suddenly changed, new tariffs and other obstacles to trade are set up and former trade relations dislocated, facilities for co-operation shrivel, the second factor suddenly diminishes and O tends to diminish with it. O , then, can move either forward or backward. It is, therefore, not necessarily true that the optimum will always be on the increase.

The value of the optimum theory lies in the fact that it enables us to understand the true implications of the growth of the population.

Is increasing population always beneficial to a country? According to the Malthusians, growth of population is always undesirable. But the optimum theory enables us to look at the whole thing in its proper perspective. If

the actual population is below the optimum, an increase of population will increase the real income per head, and so will be beneficial. It makes available better facilities of economic co-operation, and enables us to avail ourselves of special skill and machinery and of the economies of large-scale production. But as the optimum point is reached, a further increase will mean over-population, and lower income per

head. An increase of population is, therefore, neither always good, nor always bad. It must be studied in connection with the optimum.*

It should be noted that growth or increase of population cannot be judged by studying the birth and death rate alone. A mere excess of the birth rate over the death rate does not prove that population is increasing. The most satisfactory measure for deciding whether population is increasing or not, is the "net reproduction rate". This is determined in this way. Let us first take 100 female babies, and find out how many female babies they will leave behind them as they grow up and pass through the child-bearing age (*i.e.*, 15 to 40). If we find that at the present rates of fertility and mortality, they leave 100 female babies behind them, then we can conclude that the present population will reproduce itself. The net reproduction rate will then be one. But if they leave only 80 babies behind them who pass through the child-bearing age, then the net reproduction rate will be .8. It means that population will slowly decline, even though there may be an excess of birth over death.

Efficiency of Labour: The effective supply of labour and the aggregate production depend not only on the number of workers, but also on the quality of labour, *i.e.*, their efficiency. The more efficient the labourers, the larger will be the total output of the industry or the country. Productivity of labour depends upon many factors, *e.g.*, the division of labour, the advance of large-scale production, a wide use of the capitalistic system of production, the quality of labour, etc. In this section we are concerned with the quality of labour. The question is *on what depends the efficiency of labour?*

The efficiency of a labourer has a physical as well as an intellectual aspect. On the physical side, it depends primarily on the *health and strength* of the labourer. On the intellectual side, it depends on the skill and intelligence and willingness to work on his part. The health and strength of a labourer are dependent, to some extent, on *racial* factors. Labourers belonging to one race show, on the average, more bulk and brawn and physical power than those of another race. The *climate* is also a factor influencing the efficiency of a labourer.

Health and strength of the worker. Temperate climate is suitable for hard work, both manual and intellectual. In a hot climate, a few hours' work tires the muscles. The health and strength of a worker depend in part also, on the consumption of *nourishing food* in sufficient quantities. Just as the power of

*But the main difficulty regarding this theory is that it is practically impossible to say what the optimum population will be for a country. It is not an easy task to measure changes in the real income per head in a country. Moreover, the productive technique and the amount of capital resources available in a country are constantly changing. So the concept of an optimum population is "of extremely little practical interest."

steam-engines depends upon the amount of fuel consumed, so also the energy of a labourer depends upon the quantity and quality of the food consumed by him. Most of the labourers

Supply of good food. in India are underfed. So an increase in the quantity and quality of food-stuffs for these men will materially add to their productive efficiency. Closely allied to food-stuffs and equally important are *good housing conditions, sufficient clothing and other necessities of life*. Good sanitary houses,

Better housing etc. having sufficient rooms for maintaining the privacy of family life; sufficient clothing for cold and warm seasons; sufficient leisure to make life worth living; these are necessary for the maintenance of the health and strength of workers.

Further, the general working conditions in the mills and other working places inevitably react on the general health and sometimes on the morals of workmen. The productive

(d) Good lighting, ventilation and sanitation of factories. efficiency of the labourer is greatly increased by good lighting, ventilation and sanitation of factories. Even less noise in the factories and soothing colour on the factory walls may increase the efficiency of workers.

The efficiency of workers also depends greatly on the *number of hours worked*. With more hours the muscles feel the strain of the work, the attention of the worker begins to be diverted; and after sometime it becomes a positive strain to stick to work any longer. In order to overcome this difficulty, the number of hours worked must be shortened, and there should be intervals during the working day so that workers may relax their strained muscles for a while.

The effectiveness of labour also depends on the intelligence and skill of the workers. Production is now carried on with intricate and delicate machines. The handling of such

Intelligence and the skill of the workmen. machines call for a good deal of intelligence among the workers. A skilled and trained worker will produce more than an untrained man. Hence the spread of general and technical education is an important factor as it contributes towards the growth of intelligence and skill among workers.

There are some kinds of work, especially of the unskilled labourers, where education can hardly contribute to efficiency. Even in many industries and handicrafts, book education is not indispensable for a high degree of skill. In spite of the above observation, it remains true that when general education is widely diffused in the country the efficiency of the people increases. The rapid spread and use of improvements are greatly promoted by the ease of intellectual communication.

The influence of technical education on efficiency is direct. The training of engineers and the foreman hands down from generation to

generation the wisdom of ages. It promotes arts and improvements. Great inventions are in most cases made in the workshops. Wide-spread vocational training increases the efficiency of labour.

The willingness to work depends on *hopefulness, freedom and change*. A man must be assured that he has a bright future before him if he proves his worth. The slaves had

Hopefulness, freedom no freedom and nothing to hope for. Hence
and change. they had no incentive to work. There must
not be too much monotony. Changes of work and association develop
fresh creative energy.

Lastly, the efficiency of the workers is often greatly influenced by the efficiency of the employers.

CHAPTER 9

CAPITAL

What is Capital? One of the most controversial topics in Economics is that of capital. All economists are agreed that capital is a factor of production, and that it is not an original factor. But as regards the content and meaning of capital, there is no consensus of opinion. The most logical conception is at variance with many of the popular ideas about the subject, while the latter are certainly not logical.

It is better to start with popular ideas. If a businessman is asked the question, what is your capital, he will probably refer to the value of his net investment in the business in the form of buildings, machines, raw materials, etc. He will refer to the capitalised value of his undertaking as a going concern, based in part upon his goodwill, and in part upon the value of the buildings etc. But the economist is not concerned with the valuation aspect of capital. To him, the term includes all physical agents of production, excepting natural resources and labour. Capital, in Economics, means capital goods:—tangible, material objects which are the result of man's labour in the past, and which are meant to be used in production, and not in immediate consumption. To take an analogy, as in the fairy tales, suppose some fairy has caused everybody to fall asleep instantaneously in a modern community. Everything else is left intact, and into this 'sleeping city' the prince of the fairy tales happens to walk in search of his princess. What will he find on a survey of the products of the place? He will find a small volume of products in various forms which have been devoted to the satisfaction of immediate wants; for example, the food on the dining table or in the kitchens; the clothes and shoes that are on the persons of the sleeping beauties; luxurious apartments in which the princess is perhaps dreaming. These are consumption goods. Next he will find a large volume of goods, which could not be put to such immediate use, or which would not be so put, but which would be used to satisfy future wants. These, if the prince is an economist, he will recognise as the capital of the country. This category includes the houses and buildings in which work is carried on, or which are necessary to business; the machines and tools which are housed in such buildings; the raw materials which are used in producing things; and the provisions and other goods which have been set aside for the support of the workers while production is going on.

Capital has, therefore, been defined as "produced means of production". Attention should be drawn to the word, "produced."

Land is not capital. All capital goods are products, the result of human labour in the past. It is thus contrasted with land and labour which are "original" factors. It should be noted here that there are many writers who are inclined to consider land, even labour, as capital. We can, of course, give such a wide meaning to capital as to include land also. But the opinion of the majority of economists is on the side of the narrower definition of capital which excludes land. But of this, more in the next section. Capital is produced by the expenditure of labour and the use of natural resources. It is, in the words of Wicksell, "a single coherent mass of saved-up labour and saved-up land, which is accumulated in the course of years".*

Capital is a means of production as opposed to goods which are consumed immediately. But the distinction between capital goods and consumption goods is one of degree only. It is not made on the basis of any physical difference between the two classes of goods, but on the use to which they are put. The same goods may be capital and non-capital. The house in which I live is not capital. But if the same house is used as a place of work, it becomes capital. Coal which is burnt in the blast-furnace of the Tata's is capital; but coal which is burning in our kitchens is not capital.

This is the usually accepted meaning of capital. But some economists, like Fisher, argue for a broader and more logical concept. Capital is correlative of income. It consists of those goods from which we derive an income. But money income is only a proximate fact. Behind money income, lies "real" income, which consists in the utility which a person derives from the consumption of a commodity. Income is thus a stream of psychic satisfaction. All wealth yields utility, and therefore all wealth is capital. Income is a series, a stream of utility yielded by goods throughout a given period, and capital is the present value of all such utilities, mature or immature, regarded as a stock. The definition is certainly logical, but is difficult to follow in actual practice.

Is land Capital? Land is regarded as a separate factor of production, and as such it is distinguished from capital. There are many economists who hold that land is not different in nature from other kinds of capital, and the differences between them are misconceived and fruitless for economic investigation. The distinction between them is generally made on these grounds. First, land is a free gift of Nature, while capital is a product of labour; secondly, land is indestructible while capital is perishable; thirdly, land is fixed in quantity and not reproducible; fourthly, a distinction is made on the basis of

* *Lectures on Pol. Economy.* Vol. I. Page 150.

the difference in the laws which determine the incomes from the two sources.

As regards the first distinction, it is stated that other goods are, in their original form, also gifts of Nature. Further, into many lands,

there has been put as much labour as into Land is a gift of Nature. equally valuable concrete goods. Without

embankments and irrigation works, many lands would be as barren as deserts. The mere fact that one's labour has been bestowed upon land and it has been converted into a farm, and another person's labour has been bestowed upon a log of wood and it has been converted into a table, does not warrant us to draw a distinction between the two.

The second distinction is also untenable. Land is equally perishable like any other factor. The chemical composition of land on which the value of the land depends is not indestructible. These require to be constantly replenished by manures. The best grade land may become useless after a few years. Hence land is as much destructible in the economic sense as any other capital goods.

Thirdly, the supply of land may be fixed geographically. But then everything in the world is fixed in quantity. Iron-ore is as much fixed in supply as land is. Mines are not inexhaustible; nor are new lands totally unavailable. Further, we are more concerned with the actual fertility of the land than with the amount of land. "The augmentation of the productive power of an acre of land is exactly analogous to the augmentation of the horse-power of a ton of iron-ore fashioned into a steam-engine."*

The fourth distinction is that income from capital tends to be at a uniform rate in the same market, whereas there is no uniform rate of rental for land†. To this it may be replied that the same basis of measurement is not adhered to in both cases. Land is measured on the basis of surface area, while capital is measured on the basis of value.

Those who make a distinction between the two are not unmindful of these similarities between land and capital. The difference between the two is not one of kind, but of degree only.

The distinction between land and capital is one of degree.

In spite of similarities, there is one important difference between land and capital. The scarcity of land is a normal and permanent feature, while that of other goods is temporary and exceptional. Further, economic progress may have different effects on land as compared with other goods. With the progress of material civilization, other things tend to become cheaper in value, whereas the value of land tends to rise with the growth of population.

* Cannan. *A Review of Economic Theory*. Page 296.

† Carver. *The Distribution of Wealth*. Page 115.

Hence in spite of many similarities between land and capital, land can be distinguished from capital on the ground of its relatively greater inelasticity of supply. Hence the treatment of land in a separate category is quite justified.

Classification of Capital: Capital may be regarded from the standpoint of the society and from the standpoint of the individual. On this basis, capital is classified into *social* and *private*. As pointed out in the previous section, from the social point of view all things other than the land which yield income are to be regarded as capital, including things in public ownership. *Private capital* is capital regarded from the individual point of view. Any thing from which the individual expects to derive an income is private capital. A government war loan is capital from the standpoint of the person giving such loan, but is not capital from the social standpoint.

Social capital is divided into (1) consumer's capital and (2) producer's capital. Consumer's capital consists of those finished goods on which consumers live while producing, *e.g.*, houses, clothes, food, etc.

Producer's, auxiliary or instrumental, capital consists of all goods which aid labour in production. Tools, machines, factories, railways, docks, ships, etc., are producer's capital.

Social capital is further divided into *fixed capital* and *circulating capital*. Fixed capital consists of those goods which exist in a durable shape and the return to which is spread over a period of considerable duration, *e.g.*, machines. *Circulating capital* serves its ends but once, like cotton, leather, etc. Cotton when manufactured into yarn ceases to be cotton. In this connexion, the distinction between old investments and floating capital should be made clear. Money once invested in machines, tools, etc., remains locked up there. After a period the value of the machineries depends upon their productivity. These machineries are known as old investments. The command over goods in the form of a given money value which can be applied to any purpose, is often described as *free* or *floating capital*.

Production with Capital: Production with capital is usually said to be round-about production. Bohm Bawerk gives a nice illustration of this. In the primitive community with no capital, whenever a man felt thirsty he went to the spring nearby and drank water with the help of his hands. He could not store water, and hence it was most inconvenient as every time he felt thirsty he had to walk to the spring. Instead of satisfying his thirst directly, suppose he devoted one day to produce a wooden bucket, and then used the bucket to bring water from the spring. He could now store some water, and was saved the inconvenience of going to the spring on and often. Suppose next, he hits upon the plan of laying wooden pipes direct from the spring to his house so that he would have a much large and constant supply of water in his house. The construction of pipes certainly took more time than that of the bucket. Hence, we see the

employment of more capital makes production more round-about. It should be noted here that the round-about method of production is usually more productive.

Functions of Capital: The aim of all economic activities is to secure a surplus by increasing the utilities and diminishing the costs of production. The capitalistic system of production affects this surplus in two ways. It increases the stock of commodities and constantly diminishes the cost. Capital aids labour in production. It aids the labourer with tools and machineries, and thus makes labour more productive by increasing the total output and decreasing the cost of production.

Capital not only gives tools to labourers, but also *gives subsistence to them* during the process of production. The capitalistic method is a long drawn-out process. Formerly, the individual artisan used to make a thing from the beginning to the end. A village cobbler would make a pair of shoes by doing every-

The capitalistic method of production is a long drawn-out process.

thing from the tanning of the hide to the giving of a finishing touch to the shoe and selling it in the village. Unless he had his own small capital on which to live during the process of production, he had to wait until the shoes in the final shape were sold. But the period of production was not a long one. At best it took only few days and everyone, whether he was a Hottentot or a Britisher, used to have provisions for a few days. The village cobbler would finish one pair and then begin another. But in the modern factory system, raw

Capital synchronizes labour and consumption.

material is coming in at one end and the finished product is going out at the other end. Now at the same instant shoes are begun and shoes are finished. The function of capital is therefore to *synchronize labour and consumption*. The labourer has not to wait for the finished products to be sold. He gets his daily wages. The capitalist advances to the labourer his daily wages, though the product in which the labourer has a share reaches the hands of a consumer months after.

Capital helps the process of production by giving to the labourers materials of industry of the utmost variety and complexity. They are able to use semi-manufactured materials which they are to fashion into finished commodities. Without a large use of capital this process could not have been adopted.

Capital helps labour with materials of industry.

The capitalistic system of production is a round-about method of production. The interposition of capital lengthens the period of production. Nowadays long period intervenes between the beginning of a shoe and its final delivery to the consumer. The division of labour has been brought to its highest efficiency by the employment of capital. Capital is necessary for the purchase

The use of capital makes the system of production a roundabout one.

of raw materials, for the construction of factory, mill and machinery, for paying wages to labourers, for the stocking of goods for distribution to the retailer. The greater the participation of capital, the more round-about will be the process of production. On the other hand,

Use of capital means a definite part of the process of production is finished very rapidly by the help of machines. *Capital, thus, shortens the period of a particular process, but lengthens the period of the entire process;* and thus, increases the productivity of labour to the utmost. From the standpoint of the society, capital means a continuity of production.

Accumulation of Capital: Capital grows out of saving. The formation of capital goods is possible in one of the three ways. People who are now busy turning out consumer's goods only may work harder and for a greater number of hours for a few days, thus producing more consumer's goods than before. A portion of these goods may be set aside, and may be used up in the following days when they may devote themselves to turn out some capital-goods. Secondly, the people may decide to devote a part of their working time to produce consumer's goods and devote the rest of the time to make some capital-goods. In this case, they will have to forego the consumption of a part of the usual volume of goods since the aggregate volume of consumer's goods is less than before. Lastly, the people may divide the work of producing two kinds of goods among themselves. Some may remain busy turning out consumer's goods, while others are making capital. In this case, those who are producing consumer's goods cannot consume the whole of their output. They will have to support their colleagues who are making machines. These people have to be supported till the average period of production is over, i.e., till the time taken to produce final consumer's goods with the aid of the capital-goods. So the people must abstain from consuming the whole of the available consumer's goods. In order that capital may grow, the people must abstain from consuming the whole of their income. They must save. But it may be asked, why should the people agree to abstain from consumption? The main reason is that such abstention will make possible the production of capital-goods. The use of capital in production increases the productivity of labour. So we can have a larger volume of goods afterwards, if we take a little trouble to save and accumulate capital than if we devote the whole of our time and resources to produce only consumer's goods.

The growth of capital, therefore, depends on the volume of saving. The latter, in its turn, depends on the level of money incomes of the people. If the incomes are so low that nothing remains after meeting the bare necessities of life, the volume of savings must necessarily be small. The higher the incomes, the larger is likely to be the volume of saving in a country. But even

Volume of savings depends on the level of money incomes.

if the level of money incomes is sufficiently high, this fact will not always ensure that people will save the surplus. That will depend on a variety of motives and circumstances.

There are several motives which induce an individual to save. Impelled by the motive of prudence, he may save with a view to build up a reserve fund against unforeseen contingencies or rainy days. Or, he may like to make adequate provisions for the future education of his children, or the marriage of his daughters, or for his old age. Thirdly, he may want to improve his standard of living, and so saves for that purpose. Fourthly, he may like to bequeath a fortune to his family, to leave behind sufficient fund for the maintenance of his wife and children. Fifthly, moneyed men enjoy a great honour and prestige in our society, and so he may dream to be counted rich one day and to enjoy power and prestige. Lastly, he may be guided by the spirit of parsimoniousness with an unreasonable dread of spending money on anything whatsoever. These motives may be summed up as motives of prudence, foresight, improvement, family affection, pride and avarice.

In modern communities, a portion of the savings also comes from such institutions like joint-stock companies etc. The people in charge of these institutions save because of the motive of prudence. They want to make adequate financial provisions, out of their resources, to meet the depreciation of all assets. They also save for the purpose of securing liquid resources to tide over emergencies, difficulties or depressions. Lastly, they also save from a motive of enterprise. They want to accumulate sufficient resources to enable them to carry out further extensions of plants without incurring any debts.

The strength of these motives will depend on a variety of circumstances. For example, there must be security of life and property.

Otherwise, nobody will save anything. For, what is the good of foregoing immediate pleasures if one is not sure that he will be able to enjoy the fruits of his hard-earned savings in the future? The motives of savings will be strong if a country possesses good opportunities for safe and profitable investment of capital. The strength of these motives will also vary according to the customs and habits current in the community, education, religion, etc.

The influence of the rate of interest on the volume of saving has been the subject of discussion in recent times. Writers like Marshall

were of opinion that the rate of interest was one of the factors which governed the volume of saving. The higher the rate of interest, i.e., the larger the reward for saving, the higher will be the propensity to save and vice versa. There will, of course, be people who will save

less when the rate of interest is high. People who have decided to save such an amount as to enjoy a certain fixed income afterwards will have to save a smaller sum if the rate of interest is high than if the rate is low. There will also be others who will go on saving, whatever the rate of interest. These are the rich people, or people with an excessive degree of prudence. Moreover, the joint-stock companies which save a considerable amount save from motives which are not influenced in any way by the height of the rate of interest. Hence many writers like Lord Keynes have cast serious doubts on the connection between the rate of interest and the volume of saving. In their opinion, a high rate of interest will depress economic activities, and damp down the volume of investment. As a result, the aggregate money incomes will shrink, and given the same propensity to save, the volume of savings will be reduced. The aggregate volume of savings is determined by two factors, the level of money incomes, and the propensity to save out of the money incomes.

CHAPTER 10

DIVISION OF LABOUR AND THE ORGANISATION OF PRODUCTION

Division of Labour: One of the important characteristics of the present economic system is the division of labour. In primitive communities, there was of course some sort of division of labour. In the garden of Eden, it is said that Adam delved and Eve span. But the principle has been applied extensively in modern economic societies. Originally, this division of labour was confined to the members of the family themselves. As time went on, people began to look upon one village as an economic unit in place of the family. Different families of the villages betook themselves to different occupations in order to make the village one self-sufficient economic unit. The progress of material civilization, the invention of machineries, and the widening of the market through greater transport facilities have led to the widening of the economic area, and thus the division of labour has been more minute and complex.

The pre-requisites for division of labour are (a) the extent of the market and (b) continuous production. If the labour of producing a thing is to be properly divided, many men

Extent of the market. must be employed in different tasks and consequently production will have to be carried on on a large scale. Unless the market is wide enough to absorb this large output, it will not be profitable to produce on a large scale. Hence a wide market is a necessity for disposing the products. Division of labour is, therefore, limited by the extent of the market.

Continuous production. Secondly, if there is to be a minute division of labour there must be continuous production. If there is only intermittent work, the worker is obliged to find other occupations during the slack period; in that case the greatest amount of economy from the division of labour cannot be secured.

The division of labour may be simple or complex. Under the *simple form*, a workman carries through the whole of one of the stages of production, e.g., the cobbler, the carpenter.

The geographical division of labour. Under the *complex form*, one stage of production is split up into several operations.

In a shoe factory, a pair of shoes is not made by a single cobbler, but is the handiwork of some eighty workers. Another phase of the division of labour is the *geographical division of labour*. With the rapid

development of the transport system through the establishment of railways, opening of canals, and invention of steamships, one particular locality or country began to specialise in the production of a commodity in which it possessed some natural advantage or some advantage of aptitude and skill. Thus Bengal specialises in the cultivation of jute while Berar is devoting itself to cotton.

Advantages and Disadvantages of Division of Labour: The advantages of division of labour have been stated long ago by Adam Smith. The main result is a vast increase in production. Adam Smith wrote that an individual pin-maker could not make more than 20 pins a day when working alone. But 10 men, by proper division of labour, could produce at least 4,800 pins a day. This increase in productivity is due to a variety of reasons. First, if the work is suitably divided,

It places the proper man in the proper place.

each man can be given that work for which he is best fitted. Thus there will be no waste of energy as a skilled man will not have to do a work which can be done in the same efficient manner by an unskilled worker. Thus it provides scope for the best utilisation of natural aptitudes. Secondly, it leads to the increase of dexterity in every individual worker. A man who works continuously at one task for a long time will acquire special skill or dexterity in doing it. Workers will, therefore, become efficient. Moreover, there will be another type

It makes labourers more efficient.

of gain from such specialisation. A man may do everything better than another, but his superiority is more marked in some lines than in others. Under proper division of labour, the first individual will confine himself to only these lines where his superiority is the greatest. This principle is specially applicable in the theory of "comparative cost", and is an important source of gain that country derives from foreign trade. Thirdly, there is a saving in time and tools. As the worker is continuously employed in one kind of work, he has not to waste time in passing from one job to another. There is a saving in time in

There is a saving in time and tools.

another way. As the worker needs know only a part of the processes of producing a commodity, the period of his apprenticeship is shortened. There is thus an economy in time and effort. There will also be a saving of tools. Each machine is to be used for a particular purpose. It has not to be re-set to perform some different functions.

It leads to invention of machines.

Fourthly, division of labour has led to the invention of machineries. Smith cited the instance of the boy who made an improvement on steam-engines in order that he might have more time to play. As the processes of production are split up, each particular process becomes easy and simple. Such an operation may then be entrusted to a machine invented for that particular purpose. Thus division of labour results in a vast increase of production, and a substantial lowering of costs.

But the disadvantages of the division of labour are not negligible. Extreme division of labour as between persons leads to the following disadvantages. There is a loss of skill and

There is loss of skill and efficiency. of a sense of responsibility. The worker becomes a mere machine tender. He feels no joy in his work, no pride in his product as it is not solely his handiwork. but a joint product of a host of workers unknown to each other and perhaps separated by thousands of miles. The responsibility for making the product perfect is divided between thousands of men, and hence it becomes nil. Secondly, division of labour tends to monotony.

Tending the same machine, repeating the same work day in and day out, deaden the sharpness of intellect, curb the artistic sense and narrow the vision. It stifles and represses all power of initiative. Thirdly, extreme dependence of workers on one branch of work may lead to unemployment, when for any reason the demand for the commodity falls.

The following harmful effects follow from the extreme territorial division of labour. The dependence of one section of the country upon a particular product may be perilous if there is an enforced cessation of production. If one

It may lead to unemployment. country be dependent for its food-supply on another country, its food-supply may be stopped if hostility breaks out. Secondly, extreme territorial division of labour results in the localization

of industries. In the localized industry there may be demand for only one class of labourers. In iron districts only strong men are employed.

There is no work for women and children. Hence the average income of one working class family may be very low, though the male workers of the family may earn comparatively high wages. The remedy for this evil lies in the fostering of supplementary

industries in the neighbourhood to give employment to women and children.

The Use of Machinery: its advantages and disadvantages: We have seen that modern complex division of labour is closely connected with the invention of machineries and the industrial revolution. We propose now to deal with the economies of substituting machinery for labour and the attendant evils

of substitution. *The economies of using machinery are the following.* Some kind of

work could not have been performed by human strength without the use of machineries and Nature's powers. These things can be done easily by machines. No human being could ever think of moving things which are now moved by a crane. In most cases, machinery can work faster, and is more productive than human being. Machinery works more accurately than man. A machine exactly repeats its operations. The component parts of a machine are all standardized

products. The parts can be replaced. If a part goes wrong, it can be easily replaced by a new one which will exactly fit in with others parts of the machine. This system of interchangeable parts has increased the use of machinery and has increased productiveness. Machinery reduces cost of production. Things have become cheaper and many commodities which were formerly within the reach of rich men can be enjoyed nowadays by a family of workmen.

Effects of Machinery on Labour: Machinery relieves the strain on human muscles. Heavy and laborious tasks are performed

by machinery. The work of drudgery and all works which require constant repetition of the same process are now performed by

machines. A printing machine, nowadays, even folds the newspapers; this folding involved a drudgery and monotony of the extreme type. Secondly, handling of machinery requires some intelligence and sense of responsibility among the workers. Modern workers, thus, being in charge of machineries, become more intelligent and responsible. Machinery improves the quality of labour. Thirdly, machinery diminishes the barriers between different trades and makes labour more mobile. Machines for the production of a commodity can easily be adopted, with minor differences, to produce another commodity. So it is possible for a worker to move from one industry to another if he so desires. As for instance, the workers who have learnt to handle machines for making watches can move to the industry of making guns, where the machineries used are almost similar. Lastly, machinery increases the efficiency of labour and raises its wages. The more capitalistic the system of production, the greater the use of machinery, the lower will be the cost of production, profits will be higher and with them the wages.

Disadvantages of Machinery: But the introduction of machinery throws men out of employment. Sudden introduction of machinery is thus opposed to the interests of labour. The trade which used to give bread to thousands of workers can be managed by a comparatively few men and the workless labourers go to the wall. England witnessed that during the period of Industrial Revolution (1760—1820). India is experiencing that now.

The most injurious effect is on the relation between the capitalists and workers. The workers who were previously engaged in the village handicrafts now feel the pinch of sudden unemployment, and are pushed to the industrial centres in search of employment. They may get employment in the factories, but lost their former freedom. There is no personal touch between the highly paid manager and the workers. They become parts of a machine. The congenial home atmosphere which prevailed under the domestic system of production is gone. Capitalists and labourers come to think that their interests are antagonistic to each other. And thus the seeds of class-war are sown. Another injurious effect of machinery is on the health and morals of

the workers. They had to work long hours amidst unhealthy surroundings and had to live in unhealthy bustees. The labour of children and women was used without any regard to their health. The promiscuous mixing of males and females and the shameful condition of housing accommodation lead to moral degeneration. All such evil effects are not necessarily the result of the introduction of machinery, nor are they permanent in character. They are the results of maladjustment

at the initial stage of industrialisation and of the greediness of the capitalists. If the factory laws are rigidly enforced, and if the people take more interest in the welfare of the workers, the evils will be remedied to a great extent. In spite of its defects, machinery has done a great service to humanity. Human life has become more enjoyable and richer for it.

But in spite of the defects, the introduction of machineries has been vastly beneficial.

Machinery and unemployment: Machines are usually, but not always, labour-saving devices. When they are introduced, there is generally a displacement of labour for the time being. The same work that was formerly performed by 100 men is now done by (say) 5 men. In the short run, the introduction of machineries has usually led to unemployment among workers. Labour and capital appear to be competitive, one displacing the other.

On this ground, therefore, the introduction of machines has generally been opposed by the labourers. The period in which England was passing through the industrial revolution saw extensive riots in which workers smashed the new machines that had robbed them of their work and bread. But the situation is not as distressing as the labour leaders make out. In the heat and dust of controversy, it is forgotten that capital and labour both co-operate in the production of the national income. Capital without labour is dead, and labour without capital is inefficient. If both co-operate, the income of each mounts up. In fact, in the long run, the introduction of machines,

instead of creating unemployment, adds to the aggregate employment in the country. Suppose, in the cotton textile industry, a labour-saving machine is introduced. For the time being, some labourers will be unemployed. But they will soon be absorbed in the following way. As a result of the introduction of machines, cotton goods will be cheaper. If the demand for such goods is elastic, consumers will buy more of such goods. The result will be expansion of the industry, and re-employment of some workers in the expanded industry. If, however, the demand is inelastic, and the consumers do not increase their purchases, their expenditure on cotton goods will be less as the goods will be cheaper than before. They will have, therefore, more money to spend on other commodities. Production will expand in other industries where unemployed labourers will be employed. Some workers will also be absorbed in the industry for making the machines. Lastly, as a result of the introduction of

Technical invention and unemployment.

machines, those workers who are employed will earn higher wages than before, because machines increase the productive efficiency of labour. They will spend more money in buying commodities, and additional workers will be engaged in meeting their wants. In these various ways, the displaced labourers will be slowly absorbed in the industry as a whole. Moreover, it should not be forgotten that machines cheapen the products, and so far as the workers themselves consume these cheapened products, they gain as a class. In fact, the goods which are usually consumed by the working class lead themselves easily to inventions and improvements. Hence it has been truly said that though in the short run labour and capital are competitive, in the long run they are complementary.

All this, of course, happens in the long run. During the period in which adjustments slowly work out, many workers may be ruined. Others may, after a hard search, find work in a trade for which they were not trained, and hence they will get lower wages than before. The duration of unemployment depends on the power of the leaders of industry to respond to new situations, and on people's capacity to adjust themselves to new trades.

The advantages of Large-Scale Production in Manufacture: Division of labour and the application of machines lead inevitably to large-scale production. There are certain advantages of large-scale production. Following Marshall, we may classify those advantages as external and internal economies of production. *External economies* are those economies which do not depend on the expansion of the size of a single firm, but on the growth of the industry as a whole. A typical example is the decrease in the cost of machineries as these are made in large quantities. The more cotton mills there are, the machines will be produced on a larger scale and will be obtained at a lower cost. The advantages of localization fall into this class.

Internal economies are those which arise within the firm itself as a result of the increase in the size of the firm. They are independent of the general growth of industry and are the result of efficiency of management in any particular firm. The internal economies which may be gained by a firm producing on a large scale are the following:

(a) *Economy of skill.* The economy of production requires not only that each person should be constantly employed on a narrow range of work, but that the task should be such as to call forth as much possible of his skill and ability. The economy of skill results from the principle of division of labour being pushed to its farthest limit.

(b) *Economy of machinery.* A large establishment can use many expensive machines, each made especially for one particular purpose. It can afford to buy the best and up-to-date machinery and has thus a great advantage over the small-scale producers.

(c) *Economy of materials.* A large establishment can prevent waste by utilising by-products. If the by-products can fetch some price, however small, the main product can be sold at a low price.

(d) *The economies of sale and purchase on a large-scale.* A big establishment can purchase raw materials at a very favourable rate. Its selling costs are also small. It can advertise effectively, though the cost of advertisement per unit is very small. It can have its own shops for retail sale and can thus retain the profits of middlemen.

(e) *Market fluctuations affect the large concern in a less degree than the small concern.* At the helm of a large concern there is often a manager who has considerable foresight and experience. He can forecast the future demand accurately and can thus vary the supply of the product. He can face the competition of others boldly. The manager is not engrossed in the details of his firm, but reserves his knowledge and intelligence for reading the conditions of the market, for bringing about further economies and for pushing his commodities in a wide market.

(f) *Experiment and Research.* A large business can carry out experiments and incur heavy expenditure on research work. But the cost per unit does not increase very much. It can improve its processes, utilize new raw materials and can take the earliest possible advantage of scientific progress.

Limits to the expansion of a business: The question, then, arises: in view of the substantial gains from large-scale production, why do we not find firms continually expanding to gigantic sizes? In actual life, we find many small firms existing in an industry. How do we explain this paradox? It must be due to the fact that there are limits to the gains from large-scale production. The fact is that in general the larger a firm grows, the gain to be secured from further growth becomes usually less and less, and on the other hand, the greater become the difficulties consequent upon that growth. *First*, the economies of division of labour and large machinery will not continue indefinitely. After a certain stage is reached, further growth will not secure greater technical economies. "A large furnace is more economical than a small furnace, but a point comes beyond which further growth is uneconomical." *Secondly*, the limited capacities of men offer a serious obstacle to the growth in the size of firms. Difficulties of management and supervision increase with every extension in the scale of business. Every time that a further division of labour is made, every time a new branch or a new department is opened, the task of

co-ordinating the separated departments becomes more and more difficult. "The big firm is a series of wheels within wheels, an elaborate hierarchy, in which every decision requires the consulting of this man, the referring to that man, the permission of a third, the agreement of a fourth, so that decisions become endlessly delayed." There must come a stage when the machine becomes too unwieldy to manage, when the increasing difficulties of co-ordinating and supervising the work of thousands of individuals and branches will swallow up all the economies of large-scale production. *Thirdly*, in order to

produce on a large scale, a firm would have to raise large sums of money. It may not be always possible to secure money for expansion at the right moment. The businessman who wants to increase the size of his business may not be able to finance it from his own resources.

He may borrow from banks or other institutions; but the interest charged by the latter may prove prohibitive. He may also turn his concern into a joint-stock company and raise money from the public. But then he would have to surrender his independence, and work in accordance with the wishes of the shareholders. This may have a cramping influence on his initiative and enterprise, as a result of which efficiency of the concern may suffer. *Fourthly*, the demand for the product may be subject to considerable fluctuations. Here the large firm may be at a disadvantage. The organisation of such a firm is more elaborate, and its equipment is highly specialised. Hence it will find it difficult to adapt itself to new and changed conditions of demand. Thus this fact sets a limit to the expansion of a business. *Lastly*, though a firm may secure some economies of production by expanding, it may not always be profitable to do so, for, there are certain "costs of growth"* which may impede expansion. The firm

must spend money for marketing its enlarged output. The expenditure upon sales organisation and upon marketing may increase so rapidly as the firm attempts to grow, that further growth may become unprofitable. The existence of imperfect markets and the inertia of buyers set a limit to the growth of a business.

There are also certain advantages peculiar to small businesses, which account to some extent for their survival. The individual energy of the owners of small businesses is a great asset. There are men who will work more efficiently for their own than for others. They can supervise every portion of the work. The workers are constantly under their eye, and hence there is no shirking of duty. The personality and drive of the small employer galvanise the employees also, and they often give their best to the beloved master. He can give greater attention to details than the large producer. Another important advantage is that there is scarcely any serious problem of co-ordinating the separated departments, often pulling against each other. The small firm has to consult fewer people; decisions can be reached easily and quickly. Where an industry requires frequent and immediate decisions, the small firms thrive. That is why small firms are predominant in those industries where changes in fashion are constant, where also the conditions of production are changing. Standardisation is not possible in these industries. The small producer has also an advantage in the production of artistic goods. He can

* E. A. G. Robinson. *The Structure of Competitive Industry*. Page 120.

devote much labour on each piece of work. His products have a superior finish. In all these industries, the small producer has uptill now held his own against the inroads of the large manufacturer.

Localization of industries: Its causes and effects: The localization of industries means the concentration of particular industries in the different parts of a country. When the different firms manufacturing or selling the same product are concentrated in particular areas, that industry is said to be localized in those places. For example, the jute industry is located near Calcutta in India and at Dundee in Scotland; the cotton textile industry in India is more or less localised in Bombay and Ahmedabad.

What are the factors which influence the location of different industries in different places in a country? A manufacturer will try to establish his business in the most suitable

Causes of localization. place where the expenses of production are likely to be the lowest. He would, therefore, pay attention to the several factors which make, first, for lower costs of manufacture at some places than at others, and secondly, for the minimum transport costs. These factors may be classified as *physical, economic and political.*

Of course, the most fundamental are the *physical causes*: such as the character of the climate and soil or the existence of mines and quarries in the neighbourhood or within easy access by land and water. Metallic industries have generally sprung up either near mines or in places where fuel is cheap. *If the raw materials and fuel supply* are available in the same locality, localization is easily promoted.

(1) Nearness to raw materials. As for instance, many iron industries have grown up in Chota Nagpur and Bihar because iron-mines and coal-mines are situated near each other. *Physical and climatic conditions* determine the distribution of raw materials and the environment suited to a particular industry. They also determine the existence of

(2) Physical & climatic conditions. ports, rivers and seas, on which depends the possibility of easy transport of commodities produced, and of raw materials required for the industry. The extent of localization depends necessarily upon the extent of the market; and ports and navigable rivers broaden the area of the market. In England most of the important industries are localized near the ports from which commodities are distributed throughout the world. *Nearness to the sources of power* is another

(3) Nearness to power. physical cause leading to localization of industries. In former times, factories were generally set up on the banks of swift-flowing rivers; nowadays they flock where the hydro-electric works or coal-mines are situated.

Of the *economic causes*, *accessibility* to the market is the most important. This economic cause is, of course, closely related to the physical situation of ports and rivers. But not all industries are

(b) Economic causes.
(1) Accessibility to the market. located near the ports or navigable rivers and seas. Industries are attracted to the neighbourhood of big towns where they can find an easy market for their wares. Many industries

often grow up near big railway junctions for the same reason of accessibility to a big market. Another economic cause, contributing towards localization is the *availability of an adequate supply of labour*. Industries may spring up where there is an adequate supply of cheap

(2) Availability of an adequate supply of labour. labour. The growth of many industries in Calcutta may be explained by the availability of a large number of labourers in Calcutta and its neighbourhood. Due to many social, religious and political causes, many skilled labourers of one type may have settled in one part of the country. Many industries have sprung up in that part to take advantage of that labour supply.

Of *political causes*, *patronage of the court* has the greatest influence in localizing industries. Muslin industry in Dacca and the silk industry in Murshidabad sprang up due to the patronage of the Hindu and Mahomedan rulers of these places.

(c) Political cause—the patronage of the court.

An industry may be localized simply because a few firms had already been established at that particular place. The first start often helps greatly the localization of an industry.

(d) Momentum of the start. Many firms may congregate in one neighbourhood, because the locality possesses a reputation for producing some highly finished goods. These firms congregate there to take advantage of the same reputation which is enjoyed by other firms. As for instance, the cutleries of Sheffield or the watches of Switzerland are reputed throughout the world. Hence it is quite natural that new firms will be started in these places to take advantage of the trade-mark, 'Sheffield make' or 'Swiss make.'

When once established in a locality, the industry remains there for a long time in order to reap the advantages of such localization. *First*, the products of the industry gain some reputation. Products bearing the name of that place find good markets and reasonable price-offers as in the case of cutleries of Sheffield or the watches of Switzerland, etc. *Secondly*, labourers of that industry acquire some hereditary skill. The mysteries of the trade are in the air, as it were, and children learn many of them unconsciously. *Thirdly*, localization creates a local market for skill.

Advantages of localization.

All men skilled in that trade flock to that locality because they know that there is a constant demand for them in these firms. Hence there is a regular supply of skilled labourers and new firms are established in that locality

in order to get the services of the skilled labour supply. *Fourthly*, subsidiary industries grow up in the locality. They supply the localized industry with implements and materials, organize its traffic, utilize its by-products and in many ways conduce to the economy of materials. *Fifthly*, localization promotes the use of specialized machinery which helps the performance of a particular operation and offers great opportunities for inventions and improvements through a healthy rivalry among the competing firms. *Sixthly*, a localized industry gets the advantages of plentiful supply of capital and finance. Localization of an industry often attracts banks and financing corporations which find in the locality a profitable field for investment.

But that does not mean that it has no disadvantages. The *first disadvantage* is that one type of labour being required to work (as for instance, in the iron industries there being demand for only adult male workers), other members of the workers' families, especially women and children, get no employment. Though the wages of the male workers may be high, they are not so high as to maintain their families without any additional sources of income. The employers are also faced with the difficulty of giving high wages to the male workers, because high wages increase their cost of production. But this difficulty is not an insurmountable one. The remedy lies in the growth of subsidiary industries, where women and children may find employment.

Disadvantages of localization. *Secondly*, localization may cause one part of the country to be dependent for necessary goods on other parts or even one country on another. In the event of a depression taking place in the localized industry, men will be thrown out of employment; and if the products of a particular localized industry cease to be produced due to any reason, workers in that industry will suffer. The remedy lies in the establishment of a variety of industries. But this remedy by itself does not go much in the solution of the problem of depression in any one industry.

Rationalisation: Throughout the post-war period, a conscious process of the re-organisation of industry has been going on in order to adjust the industrial organisation to the changing facts of the present world. This process is known as rationalisation. Briefly, it means "putting reason into industry", and is understood to refer, in the words of the World Economic Conference of 1927, to "the method of technique and of organisation designed to secure the minimum of waste, either of efforts or of material." It includes

Meaning of Rationalisation. standardisation of materials and products, simplification of varieties, waste reduction, scientific management, the use of elaborate machinery in the place of hand labour, as well as the combination of the different firms in the industry with a view to ensuring plant specialisation, the closing down of uneconomic firms, reduction of the overhead costs and economy in selling. Rationalisation, in short, is a scientific scheme of cost-

reduction. "It represents the idea of enlightened leadership embracing an entire industry in relation to other industries, and to the national economy."* It is a single organisation of brain, brawn, and bullion.

There are different methods of rationalisation. There may be, for example, only a *financial rationalisation*, i.e., a reduction of over-capitalisation of an industry. Or, there may be an *integration of enterprise*, both of the vertical and the horizontal type. Or, it may mean the *standardisation of types*, and the substitution of hand labour by machineries. Rationalisation is something more than what is called "scientific management" in the U. S. A. Scientific management connotes the best organisation of one firm considered as one unit. It is also a scheme of waste reduction. But scientific management looks more to the *technical* organisation of the industry, whereas in rationalisation we lay more stress on the *economic* side of the business, the conscious planning of the whole organisation in relation to the industrial economy of the nation. Moreover, scientific management may not usually lead to combination, whereas some form of trustification is the usual feature of any scheme of rationalisation.

Rationalisation and Scientific management.

As MacGregor points out, "policy means leadership; leadership means control; to control any thing well, it is necessary to control a large part of it."†

Rationalisation secures the maximum efficiency of the whole economic organisation with the minimum of effort. Cost of production will be lowered, prices will be reduced, and the output will expand. Useless waste of raw materials and of power will be avoided. To the consumers, it will mean lower prices; to the producers, expanding markets, brisk business, and higher profits. The large industrial units will be in a position to raise capital at lower rates of interest than the small concerns. The huge financial resources will make it possible for each industry to spend more on research and on modern plants and to employ better brains. To the community, the greater financial security of the combine, and its larger volume of trade will mean less risk of failure, and comparative stability of production. Lastly, reduction in the selling price of most of the necessities of life will bring about a higher standard of living for the working classes.

The advocates of rationalisation have to face several problems, or "obstacles" as Prof. Clay would call them. First of all, comes the price-policy of the rationalised industry.

Difficulties of rationalisation.

Despite the claim that rationalisation means lower prices, there is always the danger that the price may be regarded as an instrument of exacting monopoly profit by the entrepreneurs. Under the competitive conditions, it is the joint influence of supply and demand that settles the price in the

* *Rationalisation of the German Industry*. Page 7.

† MacGregor. *Economic Journal*, 1927.

market, and individual firms generally accommodate themselves and their output to this price. But such would

(1) Monopoly prices not be the case under rationalisation. Prices, may be charged. then, we are told, would be "a compromise between the interests of the consumers, those of the shareholders, the provision of reserves and the contingencies."* But the leaders, may pursue an anti-social policy, and raise prices. No remedy but public administration then remains to solve the tangle.

Next comes the problem of leadership. Leaders of this generation may prove themselves equal to the task. But what about the next generation? Are rationalised industries going to find suitable leaders to make them successful? The social situation created by the

(2) How to find suitable leaders? emergence of giant organisations and trusts is leaving no chance for young ambitions to start a career of sturdy independence in the business world. The best talents are forced to find themselves as so many hands or screws in huge organizations. The supply of captains of industry is going to be a serious problem of the rationalised industries.

Another serious charge against rationalisation is that it will increase unemployment. The main motive of rationalisation is to get

(3) Rationalisation and unemployment. more output per worker. The associated changes in connection with rationalisation result in an economy in the use of labour.

It is urged that in the U.S.A. during 1899 to 1913—a period of rapid technical advance—productivity per worker in manufacturing industries increased only by 16·3 per cent; whereas in 6 years from 1921 to 1927, it rose by 40 cent. Hence it is concluded that technical progress in connection with rationalisation has increased unemployment.†

But all types of rationalisation do not involve unemployment. For example, mere financial rationalisation will not lead to unemployment.

Under certain circumstances, it may lead to unemployment. But the integration of industries and the standardisation of products may result in unemployment. So also if rationalisation is

carried out during a period of falling prices, unemployment may ensue, because during periods of falling prices, the level of wages does not fall as much as it should. And businessmen, in their search for economy, will try to throw some labour out of employment. But this does not lead to the conclusion that rationalisation *will always* result in unemployment. Inventions and improvements do not destroy the total purchasing power in the community; they merely change the direction of the purchasing power. A decrease in the demand for certain groups of commodities will be followed by an increase in demand for all others. Moreover,

* *Ibid.*

† See before p. 72.

rationalisation results in a fall in the prices of commodities, and the consumers can now obtain the same amount of commodities by spending less. Hence they will have *extra* sums of money to dispose of. If they simply hoard these additional sums, instead of spending or investing in business, unemployment will ensue.* But it must be pointed out that rationalisation, by increasing the profits of industries, opens up fields for fresh investment, and so there is every likelihood of the consumers investing their surplus money in profitable businesses. If this happens, there need not be any unemployment. Moreover, in the long run, as a result of lower prices, and higher standard of living, the volume of unemployment will diminish. But the period may be a very long one, while there will be temporary unemployment. And in the transition period, the immobility of labour

may involve not only considerable losses to individuals, but also considerable delay. In the long run, there will be no unemployment.

Excepting these temporary maladjustments, rationalisation, or technological progress does not result in increased unemployment. "The process of rationalisation observed in Germany during four years (1924-27) was accompanied during the first 18 months by a considerable reduction in unemployment, during the next 18 months, by severe unemployment, and during the last year by another considerable reduction in unemployment. In these conditions it seems difficult to assert that there is any general correlation between the two phenomena."†

* Gregory. "Rationalisation and technological unemployment." *Economic Journal*, 1930.

† Henry Fuss: "Rationalisation and Unemployment." *International Labour Review*, June, 1928.

CHAPTER 11

ORGANISATION OF BUSINESS

The rise of the entrepreneur class is one of the natural corollaries of the modern Industrial Revolution. Before the advent of the

The entrepreneurs are those persons who manage the present complex organisation and production.

Industrial Revolution, production was simple, market was limited and capital employed was also very little. The task of co-ordinating the activities of different factors of production was not a difficult or exacting one. Hence the best type of men was not required to manage such industries. The advent of the Industrial Revolution changed everything. Production is now on a large scale, machineries used are intricate and costly, large amounts of capital are used, the condition of world demand is to be studied and production adjusted to that demand, big risks in production and marketing are to be taken. And the task of combining the factors in suitable proportions has been rendered highly difficult. The importance of persons who undertake this task has increased enormously. These men who control and guide modern industrial system are known as *Entrepreneurs*.

Functions of the Entrepreneur: The modern entrepreneur is a man of first-rate importance. It is his function to decide what to produce, where to produce and how to produce.

He decides what, where and how to produce.

He plans the whole business from start to finish. He decides the quality and the quantity of the product. He selects and purchases machineries and sees to it that no materials are wasted. He co-ordinates the different factors of production in right proportions, and employs each factor in such work for which it is best fitted.

The classical economists considered that management was a most important function of the entrepreneur. It was his business to manage

He is the controller of the business.

and superintend the different operations of his business. But with the growth of joint-stock companies, the actual work of management is being left more and more to salaried managers. These salaried managers cannot be regarded as entrepreneurs. Hence it is no longer regarded as essential that entrepreneurs should themselves manage their concerns, especially in small-scale businesses. But the fact which distinguishes the entrepreneur from the salaried manager is that the former is the ultimate controller of the whole business. The entrepreneur is the person or persons who control the business and have the power to determine its policies.

Then he has also some distributive functions. The whole income of the business comes to him. He has to pay proper remuneration for land, labour and capital. Even if there be loss, the other factors will not suffer. They must be paid according to the terms of contract.

Thus the most important function of the entrepreneur is his *risk-taking*. Every factor of production has to face some risk no doubt, but his risk-taking is of an extraordinary kind. His risk is an indeterminate and immeasurable one. Modern production is carried on in anticipation of future demand. The modern system of production is a long-drawn-out process. It takes months to bring out finished products to the market. The entrepreneur must study the demand for the commodity, the supply already in the market and then undertake production. If he miscalculates, if there is one weak link in the whole chain of his calculation, production may result in loss instead of profit. The greater the complexity of the modern system of production and marketing, the greater the chance that they may be totally upset by an unforeseen contingency. Fashions may change, or new inventions may make his plans totally worthless from the point of view of profitable employment. He assumes such risks and hence his importance in the modern system of production.

But his most important function is risk-taking. It has also been stated by some writers that the entrepreneur performs a special function in production. His main function is *innovation*. He is the pioneer in his own line of business, undertakes new tasks, adopts new processes, and goes ahead of others in introducing inventions and improvements.

The supply of the Entrepreneur class: Great captains of industry are born and not made. They are geniuses, and like all geniuses their supply is based upon factors which are beyond human knowledge. Freedom of opportunity and a wide diffusion of education are the means for the discovery of persons having such unusual gifts. "Freedom and democracy operate to develop to the full the scanty number of leaders. The abolition of class privileges in modern times has been not only of political and social consequences, but has had direct economic effects also."*

But average business ability is not very difficult to attain. General and technical education among the workers of the industry will make them more intelligent and if they are given fair field, some of them may turn out to be able businessmen. The son of a man already established in business starts with marked advantages over others. Once the firm is made a going concern, a man having average

* Taussig. *Principles of Economics*, Vol. I, Page 102.

business ability may keep it running. Sons of many captains of industry, though they themselves are of average business ability, have run their father's businesses quite successfully. But in some cases they fail to manage their father's business. But their failure does not mean that the business will be ruined. They may become sleeping partners,

But the supply of men of average ability is not scarce, and their ranks are constantly filled by men from below.

with fat profits, taking as partners men who have unusual business ability. Thus the ranks of successful businessmen are constantly being filled up by men drawn from the lower rungs of the industrial ladder—men who have shown unusual business ability in the management

of small businesses. Men who have trained their eyes and ears in small businesses and who have become successful in competing with big businesses even with their small capital may in time become captains of industry. A well-balanced university education and experience can promote business ability.

Forms of business organisation: We shall now discuss the different legal forms under which the entrepreneurial functions are organised. These are usually classified as single entrepreneur system, partnership, joint-stock companies, co-operation, and government management.

The Single Entrepreneur System: In this form, the business is owned and managed by a single individual, who alone is responsible for its success or failure. The peasant proprietor, or the small retail grocer furnishes a

Advantages.

good illustration of this system. This form

of business possesses many advantages. The proprietor takes a great personal interest in his business, and tries to make it efficient. Secondly, responsible to himself alone, he possesses the freedom and the opportunity for taking prompt action. The necessity of consulting a large number of partners, or shareholders does not hamper his initiative. His business secrets cannot leak out through the indiscretion of partners. Lastly, in businesses which are simple in nature, and which do not require a large amount of capital, he can shine at his best. He can produce things to suit the individual tastes of his customers; or can devote himself to the production of artistic goods.

The main disadvantage of this form lies in the fact that a single individual is seldom in a position to invest a large amount of capital in his business. And modern businesses

Disadvantages.

require large investments of capital. And even if he is in a position to do so, the risk

will be very great, for he is personally liable to the full extent of his property for all debts of his business. Hence at the present time, this form of business is gradually losing ground to joint-stock enterprises. Only in agriculture, the individual still occupies the predominant position.

The Partnership: The partnership is an association of a few persons well known to each other and actively engaged in the undertaking. It is the simplest and the oldest form

of association of two or more businessmen. Often it has arisen from the fact that businessmen have taken their ablest employees as partners. The legal characteristic of a partnership is the joint and several liability of partners for all debts. The creditor of such a firm can

secure the full amount of the debt from any one of the partners. Of course, the partner who has paid the shares of debts of others may obtain his money back by a contribution suit. As regards the size of partnership, while there are some firms which have attained gigantic proportions, smallness is the rule. Often the business is started by a single entrepreneur and if any of his capable employees wants to break away with him, he offers him a share in the business and thus retains him instead of allowing him to start a business of his own.

A partnership can secure a larger amount of capital than a single individual. The unlimited liability of several men enables them to raise more capital, as it offers a greater margin of safety to the creditors. Another advantage lies in the combination of men of ability.

Advantages of partnership. Each partner can specialise in a particular branch of the business; one may be entrusted with buying, another with selling and so on. This leads to great efficiency. New blood can be infused into the business by taking new partners. As several men have to be consulted, the resulting decision is likely to be sound. On

Disadvantages. On the other hand, there is also the possibility of serious delays and disagreements in making decisions. Another disadvantage is the lack of continuity of the partnership. On the death, or lunacy or insolvency of one of the partners, the whole business stands dissolved. Lastly, the unlimited liability of each partner for the debts of the concern deters many rich men from joining a partnership.

The Joint-Stock Company: It is an association of individuals, known as the shareholders, or stock-holders, who join together for the purpose of carrying on a specific business, and agree to supply the capital. A group of individuals draw up the articles of incorporation in which the name of the company,

Difference between a company and a partnership. the purpose for which it is formed, the nature and the amount of the capital to be issued, etc., are clearly laid down. These articles are then submitted to an officer of the Government. After he has issued the certificate of incorporation, the company can commence its operations. The company is thereafter looked upon as a legal person, and can sue and be sued in its own name. Unlike partnership, therefore, its life is independent of the lives of the shareholders; it has not to be dissolved on the death of any shareholder. If all the existing shareholders

of a company die simultaneously in an earthquake, the shares would pass on to the heirs, and the company would go on as usual. It is an association of capital, not of persons. Another difference between a partnership and a joint-stock company lies in the fact that while the liability of the partners for the debts is unlimited, that of the

persons forming a company is *limited*. Each shareholder is usually liable only to the extent of the value of the shares that he has agreed to subscribe, though in some cases, the liability may be limited to double the value of the shares. All the risk that they run is that if the company becomes bankrupt, they will lose the value of the shares they have purchased. The creditors of the company cannot attach their other properties.

The capital of a joint-stock company is raised by the issue of *shares* or *stocks* of small denominations to the public. Any person

can take up as many shares as he likes, though in some cases, a limit might be put to the amount which could be bought in one name. The shareholders, or the persons who have bought the shares are the proprietors of the company. Each of these shareholders has the right to attend a general meeting of the shareholders, the right to give his vote in determining the policy to be pursued by the company, and to elect the directors, and the right to receive dividends *i.e.*, shares in the profits of the concern. Shares are sometimes divided into two types,—*ordinary shares* and *preferential shares*. The difference between these two types of shares lies in the fact that the company agrees to pay a fixed rate of return on the preferred shares, while the rate of dividend on the ordinary shares is uncertain. Moreover, dividends must be paid on the preferential shares before any profit can be distributed to the ordinary shareholders. Of course, if the company earns no profit, the preferred shareholders do not get any dividend. Sometimes *Cumulative Preferential Shares* are issued, upon which back dividends must be paid up before any dividends can be declared on ordinary shares. There is another way in which these shareholders get preference over the ordinary holders. If the company goes into liquidation, the former must be paid in full out of the realised assets before anything can be distributed among the ordinary shareholders.

A part of its capital may be raised by a company by the issue of *bonds* or *debentures*. A bond or debenture is a certificate of indebtedness issued by a company, bearing interest at

Bonds or debentures. a fixed rate and repayable after a fixed number of years. The bond-holder has no voice in the management of the company; he is the creditor of the company, and not its owner. In case of liquidation, the bond-holder

must be paid in full before any assets can be distributed among the shareholders, both preferred and ordinary. Bonds are thus safer than shares, but they do not carry the chance of very large returns in case the company is exceptionally successful. The capital of a company is thus divided into different groups to suit the different classes of investors.

Though the shareholders are the owners of the corporation, they do not manage its affairs. The actual work of management is left to hired managers, while the shareholders elect from among themselves a *Board of Directors* to supervise the operation of the business. Management of a Company. The directors determine the general policy of the company. Thus in this system, ownership and management have been successfully separated. Another point to be noted is that though the management of a joint-stock company appears to be democratic, actually it is highly oligarchic. In practice, the vast majority of shareholders do not take any active interest in the affairs of the corporation, and do not take care to attend the meetings, or to cast their votes at all. A group of persons usually succeed in having a controlling percentage of the total shares, or in getting a sufficient number of shareholders to sign over proxies. These active, dominating persons control the business.

Advantages: It has facilitated production on a large scale. Formerly, businesses requiring millions of rupees could hardly raise such sums. Now the joint efforts of many result in a large-scale business. Cost of production is reduced and products become cheaper. Thus consumers as a class are benefited.

It has given a stimulus to the saving of capital and its investment. Persons, having small surpluses, do not find that surplus useless, but can invest in shares of small value. Further, by separating risk-taking from investment, it has induced all classes of persons to save supply of capital.

It has increased the capital. Those who are willing to undertake risks buy shares, and those who want to take no risks buy bonds. Among the shareholders, risk-taking is further graded according to the degree of risk, as the shares are divided into ordinary and preferential. Ease of transferability and the establishment of stock exchanges, where shares can be freely bought and sold at any moment have given further stimulus to saving and have made the system very popular. Shares are sold and bought in the market like any other commodity and the investors can withdraw their money whenever required. The ease of transfer serves to bring the industry under the control of able men to the exclusion of ignorant, incapable and weak men. Those who can judge best of the prospects of an enterprise and can exercise influence towards its skilful management, buy out those who are incapable and afraid to take any risk.

The joint-stock system has promoted risky and venture-some investments. The liability being limited, and the risk undertaken by each individual shareholder being small, the directors can launch into venture-some projects.

It has promoted risky enterprises. The progress of invention in modern times and the diversification of industry have been possible only on the assumption of bold risks by companies. The joint-stock system has the advantage of stability. It is not to be wound up with the death of a shareholder as in partnership. The management is easily flexible, and new blood can be infused in the directorate. Having huge capital at its disposal, it can afford to secure the services of the best industrialists as its managers, and a fair degree of success is thus ensured.

It has made business more stable. The control may pass into unscrupulous hands, but also to the unscrupulous persons. Those who are inside the industry as directors and others who know the internal working of the industry, may sell their shares when they scent any danger without disclosing it to other shareholders. Thus the innocent members of the public who buy such shares will have to undergo losses. Or when the directors learn that a big dividend is going to be declared, they buy up as many shares as they can, only to sell those shares again at a high price. Thus they try to make money by speculation which is condemned by public opinion.

The *disadvantages* arise chiefly from the ease of transferability of the shares. Control of the industry may pass not only to the shrewd, but also to the unscrupulous persons. Those who are inside the industry as directors and others who know the internal working of the industry, may sell their shares when they scent any danger without disclosing it to other shareholders. Thus the innocent members of the public who buy such shares will have to undergo losses. Or when the directors learn that a big dividend is going to be declared, they buy up as many shares as they can, only to sell those shares again at a high price. Thus they try to make money by speculation which is condemned by public opinion.

Another disadvantage is that it weakens the sense of association for common end. The sense of association is weakened, partly because the shareholders are too numerous to know one another, and partly because the shares change hands too frequently. The team-spirit with which partnership is worked is found wanting in it. Whenever there is any chance of danger to the enterprise, shareholders begin to sell the shares, and the general stampede that follows injures everybody. Each looks to his own interest and 'the original notion of joint venture for common profit or common loss is forgotten'.

Another defect which should not go unnoticed is that the *divided responsibility increases the temptation to laxity inherent in joint-stock management*. However able the directors are, they are bound to delegate a certain portion of their work to subordinates, one manager being in charge of a department. There is a want of proper co-ordination between the different departments, though the heads of departments are subordinate to one chief.

Sometimes, the directors like to follow the line of least resistance by consulting their own ease and avoiding the trouble of taking risks.

It may also lack initiative. But this evil has been counteracted by another inherent tendency in human nature. 'It is to look beyond pecuniary gain, an ambition to prove one's ability'. Often the manager is emboldened to take the initiative, as he is generally offered a definite share in the excess incomes.

Another disadvantage from which the joint-stock management suffers is *the want of elasticity* in the matter of discipline. The managers cannot, like the private owners, make use of their personal experience of men's character and rely upon the honesty of the workers, instead of applying mechanical methods of checks.

On the whole, it might be said that the advantages far outweigh the disadvantages. It is doubtful whether modern system of large-scale production would have been possible without the joint-stock organisation. The superiority of this form becomes evident when we see that it is gaining ground over other forms of business organisation in almost all spheres of production.

Co-operation: Another form of industrial organisation is co-operation. It is opposed to the capitalistic system of production, in which the capitalist hires the labourers and remunerates them for their services. The chief evil of modern capitalism is the gradual cleavage between the interest of the capitalists and those of the labourers and the antagonism between the two classes. Bolshevism, Communism, Socialism and various other movements are manifestations of this class struggle. Co-operation is a form of industrial organisation in which the capitalist is eliminated. The workers themselves subscribe the capital, manage the industry and divide the profits among themselves. Beginning from the manager down to the unskilled labourer, all are proprietors of the industry, there is no longer any indignity in work, no master-and-servant relation.

Co-operation is principally of two kinds:—co-operation among producers and co-operation among consumers or productive and distributive co-operation. When production is

carried on by an associated group of workmen, who distribute profits among themselves, it is called productive co-operation. It is the verdict of the economists that productive co-operation is a failure, though not an absolute failure. In some spheres, especially in the field of agriculture and small industries, it has been attended with some degree of success, probably because in these fields, industrial leadership is the least wanted. But in industries of moderate size, co-operation has failed to prove its worth, the chief cause being the elimination of the entrepreneur. The managers of the co-operative producers' organisations have been men possessing a low order of ability; the workers, as they are themselves

the masters, do not subject themselves to the strict control of the managers and therefore discipline is wanting. "The essential difficulty in the way of co-operation in production is that it attempts to supersede the businessman where he is most needed. Its failure is at once a result and a proof of the variety and importance of business leadership."* Further there is the difficulty of obtaining sufficient capital and securing markets. Still we must not be blind to its advantages. It serves to eliminate class war; tends to create in the workers a sense of self-respect and if properly worked, brings larger returns to the labourers themselves.

The second type of co-operative organisation is an association of consumers with a view to the wholesale and retail sale of goods. The

common principle is to divide profits among the members in proportion to the amount of their purchases from the stores. In contrast

with the productive co-operation, it is an unqualified success. The consumers of a locality combine and start a shop of their own with small shares subscribed by themselves. The object is to supply necessary commodities to the shareholders. The shop purchases at wholesale prices and sell the commodities at retail prices. The profits are distributed among the consumers, or the shop may sell at a lower price to its own shareholders. But the effect is the same. The profit of the middlemen is eliminated. Its success is due to the fact that it has a constant body of customers. There are no costs of advertisement and the customer who participates in the profits is not very much exacting as a purchaser. Several co-operative sales stores have branches throughout the world. These stores have often started productive organisations under themselves to supply the necessary articles of sale.

Concerns under public management: Finally we come to another form of business organisation in which the government or the local authorities own and manage the whole concern. The Government of India owns and manages the Railways, Post offices, Telephones, etc. In the western countries, many municipalities own and operate their own street railways, waterworks, electric light plants, etc. In case of government-managed concerns, it has become the usual practice to entrust the management of these businesses to a special Board or a Committee of experts, who are to manage on business principles free from all political or sectional pressure. In India, the internal affairs of the state railways are managed by the Railway Board. But the ultimate control is retained in the hands of the voters in a democracy.

CHAPTER 12

MONOPOLY AND COMBINATIONS

In this chapter we are going to discuss another type of business organisation whose importance is increasing in recent times. As the size of the businesses is increasing, one or a few firms have succeeded in increasing their control over the market in such a way that they have virtually monopolistic sway in the disposal of a commodity. It is necessary, therefore, to consider the various aspects of monopolistic organisations.

Monopoly means the sole power to deal in any commodity. But such an absolute control over the supply of a commodity is extremely rare. Most monopolies have to face some sort of competition, at least from substitutes. The Calcutta Electric Supply Corporation has of course been granted a monopoly in the supply of electricity in the city of Calcutta. Other firms cannot manufacture and sell electricity within this area. To this extent, it may seem that the Company has full control over the sale of electricity in Calcutta, and may thus be said to satisfy our definition of monopoly. But electricity has substitutes in gas and kerosene for lighting purposes, and in coal for cooking and industrial purposes. Hence the Company has to face some competition and cannot, therefore, be said to exercise absolute control in the market. Most monopolies are of this type. They have got some control over the sources of supply or production of a commodity in such a way that they can influence its price within limits. Some of them may possess a greater degree of monopolistic power than others. The *De Beers Company of South Africa controls virtually all the diamond mines* and may, therefore, be said to conform towards absolute monopoly.

Under perfect competition, there are a large number of sellers in any industry, each of whom sells a very small part of the total output.

Foundations of monopoly power. Entry into that industry is perfectly free and comparatively easy. If the rate of profit to be earned in that industry rises above the

average rate to be earned in similar other industries, more producers will flock to that industry. So no producer can exercise substantial control over the supply of a commodity and can push up its price by restricting his output. But the monopolist can influence the price by curtailing his output. He can go on doing this successfully provided entry into the industry is rendered difficult for other businessmen. So we must enquire into the causes which tend to restrict entry into an industry. There are four such causes. First, entry into an industry may be restricted by law so that none but the favoured producers are allowed to operate in that line. These are known as the legal mono-

polies. Patents for inventions and copyrights for books are the best example of such monopolies. The state grants

Legal restriction on new competitors. to the inventors the sole right to utilise their inventions mainly to encourage such inventions. The state has also assumed for itself the sole power to deal with regard to a commodity or service. For example, the government has the monopoly in the postal services. The state also grants monopoly rights in certain industries which involve the right of eminent domain. These are known as *public utility monopolies*. If two gas companies or electric companies are allowed to serve the same locality there will be useless duplication of gas and electric lines in the same street. If the right of installing telephones is granted to two companies, the clientele of one company will not have the advantage of having telephone connections with the clientele of the other company. Hence the state grants monopoly in such industries to one concern for overwhelming reasons of public convenience.

Secondly, the monopolist may have acquired control over the sources of important raw materials. Such is usually the case with De Beers Company in the diamond market.

Control over sources of raw materials. Thirdly, entry into an industry may be difficult because a firm must invest on a large scale if it is to produce and sell on the most profitable basis. Production on a small scale is less efficient in these industries. A capitalist may hesitate to invest such a large amount of capital in a highly specialised form in view of the fact that the older firms with huge

financial resources may pursue a rate-cutting policy. Such is usually the case with the iron and steel industry, or with the Coats

monopoly in the sewing-cotton trade. Because of this reason, the existing firms in that industry enjoy some monopolistic power, unrestrained by the fear of new competitors. Lastly, entry into an industry may be rendered difficult because of the existence of goodwill possessed by the established firms. By constant advertising and other

Large investment in fixed capital. methods the existing firms in an industry may have succeeded in securing control over the minds and habits of their customers to such

Existence of goodwill. extent that new firms will find it extremely difficult to induce these customers to buy their products. The buyers may be so much convinced of the superiority of (say) Pears Soaps that they may refuse to purchase any other brand. It will then be necessary to spend large sums of money over a long period of time to overcome this prejudice of the buyers. Hence new firms may hesitate to enter that industry.

Combinations: Most monopolies have been formed by the combination of several firms into one organisation. Such combinations have been classified in several ways. The combinations have been classified as vertical or horizontal combinations.

A *vertical* combination is one in which all stages of production beginning from the obtaining of raw materials up to the preparation of finished products are combined. As a

Vertical combination. result of division of labour, different steps in the processes of production are generally carried out by different firms. In the iron industry, for example, iron ores are mined by one company, coal is mined by another, pig iron is made by another, steel is made by still another company, while the pig iron and steel are manufactured into finished articles by other firms. When some of the successive steps are unified under one management we have a case of *vertical* combination. The Tata Iron and Steel Company is an example of such a combination. It owns iron ores, and some other minerals, operates coal mines, and produces both pig iron and steel. The motive to such a combination is the reduction of some expenses in management and the elimination of profit obtained by the separate firms at each successive stage of production. The costs of marketing and advertisement are reduced, a regular supply of raw materials is ensured, and the chance of over-production at any stage of production is greatly reduced. This is also called "*integration of industries*".

Horizontal combination is the amalgamation or association of a number of enterprises, selling the same commodity, under one management. An integration is a combination of

Horizontal combination. coal mining, iron mining, pig iron making and steel making. Horizontal combination is the association of two or more steel companies, or of two or more coal mines under one control. The motive of such a combination is partly to secure economy of management; and partly to bring an end to cut-throat competition and thus to enjoy monopolistic profits. A combination may attain very gigantic proportions so as to be international in character. The Standard Oil Company is an example of such an organisation of international importance.

The various phases of Combinations: Combinations have also been classified on the basis of their organisation. These are known as agreements, pools, kartels and trusts respectively, each class of combination being further subdivided into smaller classes.

The simplest kind of combination is a sort of more or less loose organisation for the purpose of limiting competition among producers.

It may be a purely informal understanding between sellers as to the prices to be charged by each. For example, the price of petrol

Pools. in India is fixed by an informal agreement between the two big competing concerns, *e.g.*, the Burma Oil Co., and the Standard Oil Co. There may also be associations for regulating prices as in the Shipping Conference of the British shipping concerns which regulate the rates of freight between different ports. Or there may be an agreement for regulating output. The Indian Jute Mills Association is such an

organisation. It has often arranged that only a certain proportion of the plants of member firms shall be worked in order to control output and to maintain, or increase prices. Lastly, there may be *pools* which are associations worked on the principle that each member shall make over a fixed sum per unit of output to a common fund, from which a division is made according to a pre-arranged plan. In all these forms of combination, the agreements are generally for a fixed period and the internal organisation of each firm is left untouched.

Another form, akin to the pool, is the *kartel*, which is the usual form in Germany. It means a still further advance upon the pool.

The competing producers establish a company in which they hold shares. It is organised under the name of a selling bureau. It fixes the price as well as the output. This bureau fixes the quota of output of each firm and the selling prices, and generally manages the entire business of selling, taking all orders, etc. In our own country this plan is being gradually adopted. The Cement Marketing Board of India, the Indian Sugar Syndicate are examples of this type.

Another form of combination is the big *trust*. Originally it meant a special kind of combination. The controlling shareholders of the various companies made over their shares to a board of trustees who held them as trustees for the former. In this way, the trustees secured control over the combining firms, and managed them as one concern. Now-a-days, however, any big combination is called a "trust".

Besides these, a different form is "*the holding company*". When the formation of trusts was declared illegal in America, the ingenuity of lawyers evolved this type of combination. Instead of a board of trustees, a separate corporation is organised to own the controlling shares of the various firms. The holding company controls the policy of all subsidiary concerns.

Lastly, there is the *merger*, or complete consolidation. The different concerns dissolve themselves and form a single company which owns the property of all. Unlike the pool and the kartel, the combining firms lose their individual, independent existence.

International Kartels: In recent years, the combination movement has become international in its scope. In general, these agreements allot the home market to each national group, and make sales allotments or establish prices in third countries. Often agreements are entered into, dividing the territory, or the prices to be charged in different markets. In the copper industry, there is an international syndicate which controls 90 per cent. of the copper production of the world. The central office, the Copper Export Trading

Company, is in Brussels. Other industries such as steel rails, cement, etc., are organised in Kartels.

Economies of monopoly: The advantages of monopoly as against perfect competition depend to a large extent on the form in which monopoly is organised. If the monopoly is of the pool or the kartel type, there

Marketing economies.

is no reason to suppose that the individual firms in the combination will be more efficient than competing concerns. But if the monopoly is of the complete merger type, it possesses certain advantages as against perfect competition. It may be pointed out that standardisation, specialisation and thorough organisation may enable a multitude of businesses of moderate size to attain nearly every important efficiency and economy that is obtained by trusts. The chief economies of production that only monopolies may secure are three or four in number. A monopoly can specialise the different plants on a narrow range of work, or take steps to supply each market from

Pooling of knowledge and patents.

the nearest plant, thus avoiding the expenses of unnecessary transport of goods. Under competitive conditions, a textile mill of Ahmedabad may send its products to Bombay, while a Bombay mill may sell its goods at Ahmedabad. If the different mills combine, they may take steps to supply the Bombay market from the mill at Bombay, thereby saving the expenses of transport. Secondly, monopoly secures another advantage. It will be able to pool all knowledge and patents, and to make available to each firm the experience and the trade secrets of others. Thus the technical knowledge and patents available to each firm will be greater under monopoly than under competition. Thirdly, the existence of a large number of firms each actively competing with others, increases the degree of risk and uncertainty which confront each firm. It is not always a difficult task to forecast the probable demand for jute goods during a year. But it is practically impossible to foretell the extent of the total market for jute goods that each mill will be able to capture. The larger the number of firms, the greater is this uncertainty, and the more difficult will be the task of management. The monopolist has not to face such uncertainties. So the task of management may be easier under monopoly than under competition.

The task of management is easier.

The monopolist secures another advantage. When there are many competing firms, each has to spend large sums of money in competitive advertising. But a large portion of such expenditure on advertising and selling organisation will be unnecessary under monopoly. Lastly, it has been claimed that trusts mitigate the fluctuations of industry, and make for business stability. They can devote funds to constructive work instead of wasting them in destructive competition. They promote steadiness of output and prices because it is to their interest in view of their giant sizes. Taussig believes that there is a

No waste of competitive advertisements.

possibility of such a stability. But on the other hand fluctuations might be increased by patched-up combinations, attempts to raise profits, over-capitalisation and speculation. The writer of a recent study on monopolies has come to the conclusion* that "the evidence that they (*i.e.* trusts) contribute to the stability of industrial output remains very slight".

Disadvantages: The main disadvantage of a monopoly is that it results in a mal-distribution of productive resources. Under competitive conditions, the production of every commodity will be carried to the point at which the value of net product of the additional resources will be equal to the price of the commodity. The monopolist will produce it upto the point at which the marginal cost is equal to the marginal revenue, and the latter is less than the price of the commodity. Hence in almost every case, the output under monopoly will be less than the socially desirable output (*i.e.*, that which prevails under perfect competition). There is another disadvantage. With some exceptions, the price that a monopolist charges for his product is usually higher than the competitive price. Hence there takes place a transfer of purchasing power from the buyers of these goods to the monopolists,—a transfer in most cases from poorer groups to rich entrepreneurs. This is likely to increase the prevailing inequality of incomes,—a most undesirable feature. Moreover, by virtue of his strategic position, the monopolist possesses the power to exploit labour and other factors of production, and pay lower rates of remuneration than they would have obtained under competitive conditions.

Combinations often corrupt the body politic to serve their own ends. Having vast resources at their command, they often bribe the legislators and judges to pass laws and to decide cases in their favour.

Speculation and over-capitalisation are the special disadvantages of industrial combinations. Watering of capital is frequent and hence the speculative elements are encouraged. Trusts may sometimes assume so gigantic sizes that the problem of management becomes increasingly difficult and with the death of some able managers in the combination, the business may fail for want of capable managers.†

Control of Monopoly: We have seen that under monopoly, the output is usually less than the competitive output, and the price is higher than the competitive price. The community would gain if the state intervenes and takes steps to remove the disadvantages of monopoly. These measures may be divided into three important groups ;

* Monopoly E. A. G. Robinson. P. 166.

† For Monopoly prices. See Book IV.

—suppression of unfair practices, taxes and bounties to control the output of the different industries, and control of monopoly prices.

(a) This method aims at prohibiting the exercise of unfair practices which concerns usually adopt to drive out competitors. The most important of such practices is that of price-cutting. In our country, for example, the

Suppression of unfair competition. big steamship companies have often resorted to destructive rate-cutting in order to drive out new competitors. After the new competitors are driven out, the price is again raised to a high level. The state may prohibit such practices by laying down that once prices are reduced, they should not be raised again. But the main defects will be that this would also prevent the concerns from exercising the perfectly legitimate method of experimental reduction in price with a view to developing new clientele; and that it would not ensure perfect competition. It is not easy to define what is an unfair practice.

(b) *Taxes and Bounties.* Theoretically, this is a good method of removing the disadvantages of monopoly. The state may levy any amount of taxes on the factors of production in order to prevent their entry into over-developed industry, and by giving adequate subsidies may encourage the entry of factors into an undeveloped or monopolised industry. The state should apply this method in such a way that the marginal net products of the factors are equal in all industries. Similarly, the state may ensure that there will be firms of optimum size in an industry by levying taxes on those firms which are of more than optimum size, and by giving subsidies to those firms which are of less than optimum size. But the main difficulty is that it is not possible for the state to determine either the marginal net products of the factors of production, or the optimum size of the firms.

(c) *Control of Prices.* The state may try to secure that the price charged by a monopolist will be equal to the competitive price. This

Fixing of maximum rate of profit, or maximum prices.

can be done by either of these two methods: (i) the state may fix the maximum rate of profit that can be distributed on the capital of the concern, and lay down that if the actual profits earned are higher, the prices must be lowered. But the main difficulty is that it is not easy to determine the actual amount of capital invested in a concern (the capital stock may, for example, be watered) or the competitive or reasonable price. Moreover, this would discourage efficient management. (ii) The state may fix maximum commodity prices, and maximum factor prices. But there are great practical difficulties in connection with this method. Theoretically a different maximum price would have to be fixed for every different type or quality of the monopolised commodity; and all these prices would have to be constantly revised as the technical methods of production and the tastes of the consumers change.

(d) *Anti-combination laws.* In view of the defects of other methods of control, the governments have been forced to take the ultimate step of breaking up monopolies. The formation of combinations is definitely prohibited by laws. The U. S. A. passed the Sherman Anti-Trust law and the Clayton Act for the purpose of preventing the formation of combinations. Here again difficulties arise. The wits of the lawyer have devised steps to get round the provisions of the law. Moreover, while these measures may prevent the formation of monopolies, they will not ensure perfect competition. There is no guarantee that these will bring into existence a large number of independent firms, each of the optimum size; or they will cure the imperfection of the market for the sale of the product.

CHAPTER 13

THE LAWS OF RETURN

The Law of Diminishing Returns: In a previous chapter, we have seen that agricultural production obeys the law of diminishing returns. When, with a fixed plot of land, more labour and capital are employed, the marginal cost of production tends to increase.

Conditions of the law
of D. R.

Whenever any fixed agent of production is combined with increasing amounts of other factors of production, the returns to the increasing factors tend to diminish; provided of course that the point of best combination of factors has already been reached, and that there has been no change in the technique of the industry.

When a farmer tries to increase his output, he will have to employ more labour and capital to his land. The prices that he will have to pay in order to secure the services of labour and capital will depend on the market prices for these agents. Assuming that his demand does not raise the prices of these agents, he will have to pay at the same rate to the additional labour and capital that he now employs. But the product per unit of the additional agents diminishes: He is paying the same amount of money as before for each unit of labour and capital, but he is getting smaller output from each unit of them. Hence his expenses of producing the additional output increase as he tries to expand his production. The marginal cost of production begins to increase. It should be noted that for some time, the average cost of production may not rise as much as the marginal cost of production. This is likely to be the case when the marginal cost is below the average cost. But as the former rises, it will exceed the latter, and then both marginal and average costs will increase. It is evident therefore that a commodity will be produced under increasing cost when the increase in its production requires the services of a factor whose supply cannot be increased, or if it can be increased, additional units of this factor are inferior to those already in use.

The Law of Increasing Returns: The law states that an increase in the amount of any factor of production will yield a more than proportionate increase in the output. When an increased amount of a factor is used in any particular business, it may happen that improvements in organisation can be made, which will increase the efficiency of the agents of production. As a result, a larger output can be obtained for the same outlay in cost.

The increase in efficiency which results in the larger output may be due to a variety of reasons. It may occur because the factors in question consist of large indivisible units.

Causes of increasing returns. The conditions of production are such that investments must be made in these indivisible units before any output can be produced. For example, a machine which has a certain cost must be installed whether the output is small or large. The entrepreneur is also such an indivisible unit. When an indivisible unit of a factor has to be used, the fixed cost of that unit can be spread over a larger output as production increases in response to demand. The result will be a fall in cost per unit of output as more is produced. The classical example is that of a rail road which has to be built in a new territory. If there is to be any rail road at all, a minimum investment in railways, stations, rolling stock, etc., must be made. In the beginning, there might not be enough traffic to utilise the capital represented by the way and structures to its full capacity. But as the territory is developed, traffic increases. The rail road can meet this increased demand by running more trains. It will have to buy additional rolling stock and hire a few more employees. But no additions need be made to the road bed, stations and the structures. These are the fixed agents of production; and because these fixed agents need not be increased as traffic increases, the cost of production per unit of output continues to decline. This principle is in operation in almost every type of business. Small manufacturers are not in a position to utilise to the full extent every individual piece of machinery, or every individual employee. Technical experts and highly skilled employees may not be fully occupied with the work they are best fitted for. An increase in the size of the business will bring about a better utilisation of their services, and the total unit cost will decline.

Another way in which improvements in organisation can be made is through increased specialisation. There are several scales of specialisation available to a particular industry. Larger output will make possible the adoption of higher scales of specialisation, leading to increased efficiency and falling costs. Each separate action in the process of production can be performed by a factor of production specially adapted to that particular operation. As the demand for the products of an individual firm increases, it will be able to use large and expensive machines, and the services of experts, or of highly skilled labour. Its marginal cost will therefore fall.

These are all instances of "internal economies", i.e., economies available within the firm itself as it grows in size. They are due to the better utilisation of plants, or to greater specialisation within the firm. Falling costs may also be due to the availability of "external economies", as Marshall called them. These are economies which are available to a particular firm as the industry grows in size. For

External economies.

example, when a new firm enters a particular industry, it may enable all firms to produce cheaply. Machinery can be bought more cheaply by all of them because the industry now presents a larger market to the machine-producing firms.

It should be noted that increasing returns do not continue indefinitely as a firm grows in size. A time will come when the attempt to increase the output after the fixed agents are fully utilised, will meet with diminishing returns. When the law of increasing returns prevails, each firm will be able to reduce its cost by enlarging its output. If perfect competition exists, it will be to its interest to do so. But as it increases its output, the economies of specialisation and large-scale production will cease to operate until any further increase in its size will cause costs to rise.

The law of Constant Returns: When production of a commodity can be increased without any change in the expenses of production per unit of output, the commodity is said to be produced under the law of constant returns. An increase in the employment of the factors of production causes a constant increase in the returns. In order that a commodity can be produced at constant cost, the following conditions should be fulfilled as far as possible. First, the supply of raw materials required in the production of the commodity must be so plentiful that an increase in its production should not cause a rise in their prices. Secondly, the factors required in its production should be available at constant prices. Thirdly, the industry should be one in which the increase in its size will not lead to greater division of labour, or more specialisation.

Production at constant cost may also be the result of an exact counterbalancing of the effects of increasing and diminishing returns. The economies of greater specialisation and improvements in technique may be exactly offset by higher costs of obtaining raw materials, or of the more scarce factors.

Conclusion: It should be noted that the three laws that we have discussed are mere analytical tools, whose importance will be apparent when we consider the different problems of the theory of value. But in real life, no particular industry conforms to any of these laws at any given time. The utmost that can be said is that agricultural production has a tendency to obey the law of diminishing returns. While there is thus a constant tendency for agricultural and mining products to become more costly, the processes of manufacturing these goods into finished products and of transporting them have been carried on so long under conditions of increasing returns. Even then it is very difficult to dogmatise. The growth of scientific knowledge, the progress of inventions, the unforeseen improvements in technique,—all these are modifying the course of the various industries.

CHAPTER 14

MARKETS

From time immemorial all exchange operations have been carried on in some market places. In fact, the progress of industrialisation is dependent on the evolution of wider and more perfect markets. If the market for a commodity is extremely limited, the output of that commodity will also be limited. As the market widens, and with it, the demand increases, its production will be stimulated. As Adam Smith pointed out long ago, the division of labour is limited by the extent of the market. Hence the importance of a study of the features of a market before we start seriously to describe the theory of value.

Definition of a Market: In ordinary language, the term, 'market', refers to a certain place where goods are offered for sale.

The weekly village fair, where both sellers and buyers throng, and conduct their various transactions leisurely and noisily, is the best illustration of a market of ordinary speech. But in economic theory, the term 'market', does not refer to a place or any region; rather, it refers to a commodity or commodities, which are bought and sold by a number of buyers and sellers. For example, when we speak in Economics of the *wheat market*, we do not refer to the particular place where wheat is bought or sold. Similarly, the stock exchange market refers, not to any definite place, but simply to the fact that shares are freely bought and sold at competitive prices. The criterion by which to judge the existence of a market is the prevalence of one price at any given time. The commodity is bought and sold at one price within a market. If there are two prices for a commodity, there will be two markets existing simultaneously.

An economic market may be classified in two ways:—according to space, or according to time. The area of a market depends on the nature of competition. If competition is

Classification according to space. world-wide, the market will be international; if it is only nation-wide, the market will be national; if it is local, the market will be local. Hence markets may be international, national or local. Gold and silver are examples of commodities that possess an international market; while at the other end of the scale come the extremely perishable articles, like milk, fresh vegetables whose market is generally local.

A market may also be classified with regard to the period of time which is under consideration. If the period is short, say, for a day only, the supply of a commodity at the

Classification according to time. command of the sellers is fixed for the time being, and the price will be influenced mainly

by the forces of demand. If the period is longer, the supply will be influenced by the cost of producing additional output; and the predominant influence on value will be the forces of supply. Marshall divides markets into four classes on the basis of the period of time:—short period, moderately long period, long period, and secular period. The importance of this classification will be treated in a subsequent chapter.

Conditions for a wide market: The general tendency in the modern world is for widening the markets for a commodity. The

Factors making for a wide market. present industrial revolution has been made possible by the opening out of wide markets. And the industrial revolution, in its return,

is giving rise to factors which are causing an extension of markets. For example, the use of railways, telegraphs, telephones, etc., is tending to make the whole civilised world almost as one market. Nevertheless there are some special factors which explain why some commodities have world-wide markets, while others have a local market. The conditions which make for a wide market for a commodity are the following:—

(a) *Universal, or very wide demand.* Clearly the larger the demand, the wider must be the market for a commodity.

(b) *Portability.* The commodities must be durable and portable, i.e., they must possess large value in small bulk. Gold and silver are examples of commodities which are durable and have considerable value in small bulk, and hence possess wide markets. While bricks have small value in proportion to their bulk and cannot therefore be carried to a long distance. Hence their market is confined to local areas. Fresh vegetables are not durable, and hence their market is also limited.

(c) *Suitability for sampling.* If exact samples of the commodity can be sent to purchasers at a distance, they can buy it, confident that it will come upto a given standard. If the commodity is such that its samples cannot be taken, then the purchaser must be on the spot to buy it. The market for it will be small in area. Whereas, if samples could be sent, it could be bought and sold over a wider area.

(d) *Suitability for grading.* If, further, the commodity could be graded, i.e., if the standards of quality are fixed by a competent authority, then the purchaser could buy without even seeing the samples. Hence the commodity could be exchanged over a far wide area. For example, the quality of coal produced in India is certified as first class coal, second class coal, etc., by the Coal Grading Board;

and the purchaser in the far east could send orders for first class coal, without seeing the sample.

The more a commodity satisfies these features, the wider will be its market. The best examples of commodities possessing an almost international market are furnished by the precious metals and stock exchange securities of international reputation. The *precious*

The market for gold and silver. *metals* are demanded everywhere, and they are also easily cognisable, portable, and extremely durable. Hence they are sold and bought all over the world. The *market for cotton, wheat, iron, copper, etc.*, is also, to some extent, world-wide. As important raw materials of industry,

they are in demand in every country. They have been suitably graded and sampled; and though they possess less value in proportion to their volume, they are yet portable. Hence their markets are highly organised.

On the other side come such articles as *fresh vegetables, milk, etc.* Though they are in general demand, yet they are extremely perishable, and bulky. And so they

The market for perishable and bulky articles. cannot be carried over to long distances. Sampling and grading are also difficult. Hence they have only a limited local market.

Perfect and Imperfect markets: Markets have also been classified on the basis of the degree of competition prevailing in the market. Competition in a market will be perfect, if all the buyers know the prices charged by the different sellers, and if they always try to buy at the lowest prices, and lastly, if each seller is selling the same standardised commodity. There must also be a large number of sellers. In such a market, there can be but one price for any commodity at a particular time. If not, let

Perfect market. us suppose that the sellers are charging two prices for the same commodity. Since all the buyers know the prices prevailing in the market, they will all go to those sellers who are charging lower prices. If these sellers control a large portion of the total supply, the other sellers will then be forced to lower their price to the level charged by the former. If, on the other hand, the sellers offering to sell at the lower price control a small supply, competition among buyers will induce them to raise the price to the level at which other sellers will sell. Hence under perfect competition, there can be only one price for a commodity at a given time.

Competition will be imperfect in a market if the buyers do not know the prices charged by the different sellers, and either because of this ignorance or inertia, or costs of transport, do not try to buy in the cheapest market. It will also be imperfect if the buyers believe that there are differences (real or supposed) in the

Imperfect market.

qualities of the commodities sold by the different sellers. Or if there are only a few sellers of a commodity, each selling a substantial part of the total supply, competition will also be imperfect. In an imperfect market, the sellers may charge more than one price for a commodity to the different buyers. In subsequent chapters, we shall first examine the principles which determine the value of a commodity when competition is perfect in the market, and then study imperfect competition.

CHAPTER 15

VALUE UNDER PERFECT COMPETITION

In this chapter and in four subsequent chapters, we shall assume the existence of perfectly competitive conditions in the market for a commodity. We know already that in order

Conditions of perfect competition.

that competition may be perfect, the following conditions must be fulfilled. First, the commodity must be sold by a large number of buyers and sellers, so that no buyer or seller can influence the market price by his independent action. An example will make the point clear. Suppose there are about 1,000 sellers of a commodity, each selling 20 units. The total supply is 20,000 units. If a seller increases his output by (say) 5 per cent. the total supply will be increased by only one unit. In the place of 20,000 units previously sold, 20,001 units have now to be disposed of. This will not affect the market price of the commodity. Of course, this does not mean that if all the sellers decide simultaneously to sell more of the commodity, the price would not be affected. No one of them can, by his independent action, affect the price. Secondly, each seller should sell the same commodity in the market, and differences in the quality of the commodities sold should be absent. Brookebond's tea and Lipton's tea cannot be grouped as one commodity. On account of the existence of differences in quality, there may be no competition between these two products. Lastly, each buyer knows the prices charged by different sellers in the market, and tries to buy from the cheapest market. It follows that as each buyer wants to buy at the lowest price possible, any seller can attract all buyers to himself by slightly lowering the price below that of his rivals. Conversely, if he charges a slightly higher price he will not be able to find any buyer. In technical language, this means that to each seller, the demand for his commodity is infinitely elastic within a small range on each side of the market price.

Under perfect competition, the price of a commodity will be such as to equate its demand and supply. Before stating how the interaction of the forces of demand and supply fixes the value of a thing, it is necessary, in order not to make matters unnecessarily complicated,

Assumptions.

to assume a few hypotheses. We assume that the sum spent for a commodity forms only a very small part of the total income of an individual, so that the marginal utility of money remains the same

to him throughout the period of time. Similarly, we must also assume

(a) Marginal utility of money is constant.

that the utility of money to the sellers throughout is also constant. This assumption is justifiable with regard to most of the

commodities with which we are concerned in our everyday market dealings. The exceptions are generally small and can be neglected.

(b) A definite period of time.

Lastly, we must assume a definite period of time in which to examine the working of the forces of demand and supply. The importance of paying attention to the time element in the theory of value

will be treated in a subsequent chapter.

Now in a market during a period of time, there is a demand price for each unit of the commodity, *i.e.*, the price at which each particular unit will find a buyer. And as more

Demand price.

and more units of the commodity are placed on the market, the demand price for the

additional units diminishes in accordance with the law of demand. By what degree the price will fall depends on the elasticity of demand for it.

Similarly, for each unit, there is a supply price, *i.e.*, a price at which the sellers would be willing to sell that unit. If the actual

Supply price.

price is less than this amount, the seller would refuse to sell. As more and more units are demanded, the supply price of additional units

will either rise or fall, according to the elasticity of supply, *i.e.*, according to whether the commodity obeys the law of diminishing returns or increasing returns.

Now suppose two lists of demand price and supply price are made out for tea.

At the following price	Buyer will buy	Sellers will sell
Rs. 3/-	.. 10,000 lbs.	23,000 lbs.
Rs. 2/8/-	.. 12,000 "	18,000 "
Rs. 2/-	.. 15,000 "	15,000 "
Re. 1/8/-	.. 20,000 "	11,000 "
Re. 1/-	.. 27,000 "	8,000 "

By examining the two lists, we find that when the price of tea is Rs. 2 per lb., consumers are willing to buy 15,000 lbs., while sellers are willing to sell exactly that amount.

Equilibrium price.

Hence the price will ultimately settle at this figure. It will be the *equilibrium* price. For

if the price of tea is fixed at this figure, both the amount demanded and the amount offered for sale will be equal, and there will be no tendency either for the supply to increase or decrease. If the price of tea were higher than this, say Rs. 2/8, 18,000 lbs. will be offered for sale, while consumers will buy only 12,000 lbs. Hence the sellers will remain in possession of an excess supply of 6,000 lbs. and if they

are to sell it, they must lower the price. Similarly, if the price is below Rs. 2, say, Re. 1/8, the sellers will offer only 11,000 lbs., while the consumers ask for 20,000 lbs. There will be a group of unsatisfied buyers anxious to buy at that price, and as a result, the price must move up if the sellers are to be induced to supply more tea. Hence the price (Rs. 2) is the *true equilibrium price*, since it would fully equate demand and supply. Temporarily, owing perhaps to the intensity of desire on the part of some consumers, the price may move on; or owing to the fact that some sellers are in urgent need of money, the price may go down. There may be some such temporary oscillations of the price. But if equilibrium between demand and supply is to be maintained, the price must remain at that figure.

Suppose that there is a disturbance from this position of equilibrium. That is, the price of tea in that market has risen above Rs. 2/-. At once there will be set in motion forces which will tend to bring the position back to equilibrium, *i.e.*, back to the equilibrium price. The sellers will offer more pounds of tea than the buyers are willing to purchase. And there will follow a period of reduced sales, unsold stocks, and lastly, fall of prices again to the old level. In this way, the equilibrium of the demand and the supply prices will determine the value of a commodity.

In fig 7, the curve DD' represents the demand for the commodity (tea); and SS' represents the supply curve for the commodity. The

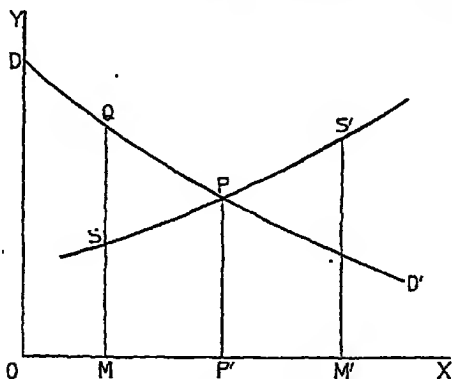


Fig. 7

two curves intersect each other at P. PP' therefore measures the equilibrium price at which buyers will be willing to purchase OP' amount of tea and sellers will also sell OP' amount. If the actual

price is equal to QM , then from demand curve, we know buyers will purchase at that price only OM amount of tea, whereas sellers will be willing to sell OM' amount. The anxiety of the sellers to sell will drive the price down again to PP' , the true equilibrium price.

This is the theory of value in the broadest outline. To get a more realistic idea, we must pay regard to the elasticities of demand and supply of the article. The higher the cost of production, the greater the limitation in supply, the higher will be its value. But

Value and elasticity of demand.

how much higher it will depend on the *elasticity of demand*. If the demand is elastic, a decrease in the supply of that article will not drive the price very much higher. While if the demand is inelastic, restriction of supply will drive the price to a very high level. Similarly, if the demand for an article increases, the price of the article will go up,

And of supply.

if its supply is inelastic, or if it obeys the law of diminishing returns. But if the supply is elastic, or if the industry obeys the law of increasing returns, the price may ultimately fall, as the increased output that will be produced to meet the increased demand may cause a lowering of costs.

We have stated that value is dependent on demand and supply. But demand and supply are also dependent on value. If the value rises, demand will fall off and supply will increase. Value, demand and supply mutually affect each other.

Thus there is a mutual causation between value, demand and supply. If any one of these changes, the position of the other two will at once be affected. Demand and supply are not the *causes* of value. Rather they are *mutually inter-related*. This inter-relation between value, demand and supply should be carefully borne in mind. Neither can be said to exercise a superior influence, though it may be useful to concentrate our attention on one of them in special cases.

Value of non-reproducible articles: So far we have been considering the values of things whose supply can be adjusted to demand. But there are some commodities

Value of non-reproducible things is determined more by demand.

whose supply is absolutely limited. Great works of art, like a picture by Raphaël, are examples of such non-reproducible goods. How is their value determined? This will require no new principle. Value is always determined by the equilibrium of demand and supply. In the case of other articles, the supply on the market for the time being is not supply for all time. Since they are reproducible articles, their supply can be augmented. But in the case of non-reproducible articles, supply cannot be increased, however high may be the demand price. Value in their case will be determined by the interaction of the supply in hand and the demand for them. Here the influence

of demand is predominant. If a rich American with a fancy for collecting rare works of art, happens to pass by the market where such articles are being sold, the price may, owing to his bidding, rise up to levels undreamt of by the original makers of that article. Though demand thus exercises the predominant influence, supply has still some say in the matter. For had the supply of that work of art been more plentiful, the value would not have risen so much. Thus only because the supply is extremely limited that the price is very high. The only peculiarity in such cases is that the supply is not limited by the cost of production, but rather by the subjective valuation put upon them by the owners of these articles. That is, the list of supply prices is made up, not of the marginal costs of production, but of the degrees of sentimental values attached to them by the owners. This is represented in Fig. 8. There is a fixed supply of a commodity OS, DD' represents the demand curve. When demand conditions are represented by DD', the fixed supply OS will be sold at the price PS. If, however, demand increases to dd', the price will rise to p's.

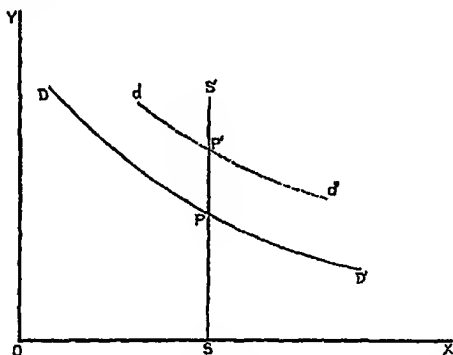


Fig. 8

Demand: Value is determined by the equilibrium of the forces of demand and supply. Price will be such as will make the demand and supply of a commodity equal.

Utility lies behind demand. But the demand and the supply curves are not the *ultimate* influences determining value.

They are merely proximate influences. Behind the demand curve, and shaping the demand curve lies the influence of utility: and behind the supply curve lies the more fundamental factor, cost of production.

We have also seen that value is influenced, not by the total utility, but by the marginal utility of the commodity. It is the utility of one unit, more or less, which determines value.

Marginal utility, but not total utility that influences value.

This fact also explains why gold is more valuable than water. The utility of one unit more or less of water is almost negligible.

While though gold is an essential article, the utility of one unit of gold more or less, to be added to or taken away from one's possession, is very great. Gold is the rarer article, and one ounce more or less of gold will make a great difference.

Supply: In earlier chapters we have studied the forces which influence the demand for a commodity. We shall now make a detailed examination of the factors affecting the supply.

Supply of a commodity means the total quantity of the commodity that sellers offer to sell at different prices from the stock of a commodity existing at any given time. The latter refers

Supply and stock.

to the total quantity that exists in a market, while the supply means that amount which

the sellers are willing to sell at a particular price. Supply therefore means supply at a price just as demand means demand at a price.

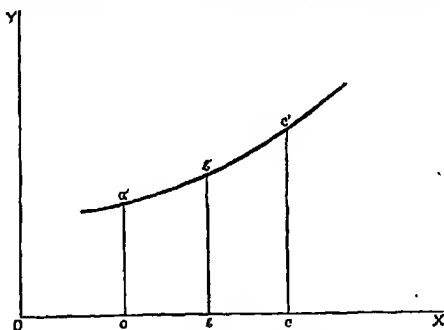


Fig. 9

The amount of a commodity that the sellers offer for sale varies with the price that the buyers are willing to pay. When the price rises in the market, the sellers will be willing to sell larger quantities of the commodity.

Law of supply.

In other words, the supply will increase when the price is high. The opposite happens

when the price is low in the market. This tendency is known as the *law of supply*. This law states that as the price of a commodity rises or falls, its supply will tend to increase or decrease. This tendency

works in an opposite direction from that indicated by the law of demand.

This tendency is represented in the graph in Fig. 9. Along OX we measure the amount of a commodity that is offered for sale at different prices. The different prices are measured along OY. When the price is aa' , sellers will offer Oa amount for sale; when the price rises to bb' , sellers become willing to sell Ob amount and so on. The supply curve $a'c'$ thus slopes upward.

There are, of course, exceptions to this law. It may quite happen that the supply is more or less fixed, as in the case of a painting by Raphael, and will not vary with changes in price. Or it may happen in exceptional cases that as the price rises, the sellers offer a smaller quantity for sale than before. This, it is alleged, is the experience of many employers of labour in India. The workers have a very low standard of living, and feel very few wants. When the employers offered higher money wages for their services, the workers were able to satisfy their meagre wants by working smaller hours or days in the month. So higher wages were followed by increased absenteeism from work. This means that as the prices of their services became higher, the workers offered smaller services for sale. After a certain stage therefore, the supply curve runs downwards. But these cases are so few that the law of supply holds good almost in all cases.

Elasticity of Supply. As in the case of demand, we must also take account of the elasticity of supply of a commodity. Elasticity of supply means the rate at which the amount of a commodity offered for sale will change as a result of a change in price. The supply of different commodities responds differently to every change in price. When the supply of a commodity changes by a large percentage as the price changes a little, it is said to be elastic. The supply will be inelastic when a small rise or fall in price will not lead to any substantial change in supply.

What factors determine the elasticity of supply? It will depend on the nature of the commodity, *i.e.*, whether it is durable or perishable.

Factors determining elasticity of supply. Perishable articles like milk or fish or fresh vegetables are inelastic in supply over short periods, for these must be sold before they get rotten. The supply of labour is also inelastic in this sense over short periods as labour is an extremely perishable commodity. The supply of durable articles may, however, be kept back if the price is considered low. Hence their supply is elastic over short periods. Secondly, the supply of a commodity will be inelastic if the additional output can only be produced at a considerably higher cost than before. In that case, a small rise in price may be insufficient to cover the increased cost of producing the additional output. The supply may not increase materially in that case. This is usually true of the agricultural and extractive industries where the law of diminishing returns is in operation. Provided that no change in technique takes

place, the supply of these articles is usually inelastic. Thirdly, the supply of manufactured articles may be elastic during short periods up to the limit fixed by maximum capacity of the existing fixed plants. But after the maximum capacity is reached, the supply may respond slowly to a small rise in price. The more complicated the instruments of production and the more specialised the skilled labour required to produce a commodity, the greater will be the inelasticity of its supply. But the supply of such commodities may be elastic over fairly long periods when it will be possible to instal new instruments of production. Fourthly, the supply of a commodity will be highly elastic if it is produced under conditions of increasing returns. If the demand for these commodities rises, and so the price goes up, the producers will gain very high profits as larger output will mean lower costs. It should be noted that under conditions of increasing returns, the supply may be inelastic when the price is falling. For the producers will try to maintain the same output, knowing that any reduction in output will lead to higher costs. Lastly, the supply of a commodity will depend to some extent on the technical conditions of production. If the process of production is simple, requiring little fixed capital, the supply can be readily adjusted to every change in demand so that the effects of a crisis were not as severe as in highly industrialised countries. But if the production of the commodity calls for highly specialised equipment, the supply cannot be readily adjusted to demand.

Importance of marginal analysis in Economics: The theory of value states that value is determined *at the margin* by the general relations of demand and supply. A person goes on buying a commodity; he will stop at that point when the satisfaction that he obtains from the last unit is just equal to the price. This is the marginal unit. It has been stated that the utility of this marginal unit *determines value*. But that is a wrong statement. *Margins are never the causes of value*; rather margins, equally with value, are caused and determined by the interaction of the forces of demand and supply. Where the demand and the supply curves meet, they determine both value and the margin at the point of intersection. "*Marginal uses and costs do not govern value, but are governed together with value by the general relations of demand and supply.*"*

The marginal unit does not, therefore, govern value. Of course it is true that had the marginal unit been not available the value of the commodity would have been different. But this is equally true of any other unit, since by hypothesis, all units are indistinguishable. It is not the demand for the marginal unit, nor the cost of the marginal unit that determines value. Rather it is the total demand in equilibrium with the total supply that governs value.

Margin is a point at which, and not by which value is determined.

* Marshall—*Principles of Economics*. p. 410.

Moreover, the position of the marginal unit, as *marginal unit*, is itself dependent on the entire demand in equilibrium with the entire supply. Suppose that a boat could only carry nine men; and it is already full. Now suppose a tenth man jumps on the boat and sinks it. We can not say that it is the weight of the 10th man alone that caused the boat to sink. On the other hand, the correct statement will be that it is the weight of the nine men *plus* that of the 10th man, which caused the sinking. Similarly, it is not the utility of the marginal unit that governs value; but it is the demand for the other units, plus the demand for the marginal unit that govern value. It is the entire demand and the entire supply that govern both the margin and the value. Margin is a point at which and not *by* which value is determined.

That does not, of course, mean that the marginal unit has *no* influence on value. Marginal unit is a part of the total supply like any other unit, and hence exerts *some* influence. The absence of the marginal unit, or the marginal buyer or seller would modify value, because the total supply or demand would then change.

The theory of marginal analysis is, however, important on the ground that margins are the focus at which we can best study the action of forces that determine value. The influence

We must go to the margin to study the forces that govern value. of the forces that will cause any change in value will be mostly felt at the margin. When the price of agricultural produce falls, the marginal land, *i.e.*, the land on which the cost of production is barely covered by the price, would be the first to be thrown out. Margins are thus the centre, the focus. And so we should always go to the margin, we economists, and consider its ways.

CHAPTER 16

MARKET VALUE AND NORMAL VALUE

Market value: *Market value* of a thing means the value that prevails in the market during a short period, say a day or a week.

Market value is determined by the relations of short-period demand and supply. In such a short period, there is no possibility of adjusting the supply of a commodity to the influences of demand. The supply is more or less fixed. If there is an increase in the demand for a commodity, there is no time to increase the output. Very sudden changes

in demand will then exert an unusual influence on value, because the supply for the time being is fixed. There will be a *temporary* equilibrium between the forces of demand and supply, demand gaining the upper hand; temporary, because the equilibrium is balanced by temporary, passing forces.

Let us take the case of an extremely perishable commodity like milk. As it is extremely perishable, the total quantity of milk that has already been brought to the market in a day must be sold in course of the day. There is no way of decreasing or increasing the actual stock in the market. The supply being thus fixed, value will depend predominantly on the influences of demand. If, owing to a feast, the demand for milk rises, the price on that day will at once jump up. Conversely, if demand falls, the price will at once fall. For whatever the state of demand, the total supply must be sold away. The cost of producing milk will have little influence on its value on that particular day. A temporary equilibrium will be established at which the total supply will be carried off. This equilibrium is not a stable equilibrium, for, after a period of time, either the demand or the supply might change.

But though market values are governed by the interaction of demand and the actual stock on the market, yet it is also influenced, to some extent, by the cost of producing additional units in the future. For not every article is extremely perishable like milk or fish. Most of the articles of every day use are not so perishable, and their supply can be held over for a certain period. Rice, wheat, etc., are such articles. It is seldom that the sellers will offer all their stock of such commodities for sale on any one day. They will generally keep certain amounts of such commodities as reserves, constituting their stock. And if for some reason or other, the demand increases and the price rises, they will decrease their stock and increase the supply on the market. Thus the rise of prices will be checked to some extent. Similarly, if owing to a fall in demand, the price falls below the cost of production, they will withdraw the supply from the market, and wait for the revival of demand. This will arrest the fall in price.

Hence market values are also influenced by the probable conditions of future demand and future supply.

Though demand is thus the predominant influence on value in the short period, the influence of the conditions of supply, though small, is not negligible. Marshall's famous example of scissors illustrates this point beautifully. If the lower blade of the scissors is held tight, and the cutting is done by moving the upper blade we might say that the upper blade does the cutting. But it could not have done so, if the lower blade were not there. Similarly, both the conditions of demand and supply determine value. One of them may exercise the predominant influence. Yet the other should not be neglected.

Meaning of the term, "normal": The term, 'normal', in Economics means the course of action that will follow if the existing economic forces, or the economic forces under consideration, have a sufficiently long time in which to exert their full influence; meanwhile no new force will begin to modify the situation. It is necessary to be careful about the proper meaning of the term, 'normal.' Normal action always means the natural result of a particular set of conditions. The particular set of conditions may connote certain moral principles. Normal action will then be *moral action*. But that is not always the case. For if the given conditions are far from being moral, normal action will not be moral action. The normal value of labour which is sweated, and which works under extremely unhealthy surroundings is certainly not morally justifiable. Similarly, *normal value is not always competitive value.*

Not always competitive. Only when the given set of conditions whose normal result we are studying are competitive, will normal value be competitive. But when the conditions are those of a monopoly, we would still have a normal value, but not competitive value.

Normal value: Normal value is the value that will ultimately prevail if the given set of conditions gets sufficient time to exercise their full influence, and if, in the meantime no other change takes place. Usually normal value is referred to as value in the long run.

How normal value is determined? When the period is long enough, value will be influenced by the more permanent and persistent causes. The fitful and sudden changes, the passing events will wear themselves out in course of time. If the period is long, the sellers will have ample time in which to produce a larger or smaller quantity of a commodity. More or less will be placed on the market; and as the supply is changed, the price will also change until it is equal to the cost of producing additional units. At that point, an equilibrium will be established; the demand price will be equal to the supply price. Supply cannot increase beyond that amount, for that will drive the price further down, below the cost

of production. If the price does not cover the cost of production, the additional units will not be produced at all.

Value in the long period equals the marginal cost of production.

If the price remains above the cost of production, the output will have a tendency to expand. Hence the price will tend to equal the cost of production in the long period. The conditions of supply exercise the predominant influence. The supply will stretch itself out until it catches up demand.

✓ **Normal Value and Market Value:** Though market value is influenced out of proportions by passing events, it generally clusters round the normal value. The disturbing, fitful events will pass away gradually, and the value

Normal value is the centre round which market values fluctuate.

will ultimately gravitate towards the margin fixed by the more permanent causes. With

the fluctuations in the supply and demand of a commodity, the market value will rise above the normal value at one time, or will fall below it at another. But normal value is the centre round which the market value moves. A pendulum has a central resting place determined by the influence of the force of gravitation. Passing events may disturb it, and send it to and fro from its position of equilibrium. But it will always have a tendency to return to the position of equilibrium. Normal value is like the level of a sea. The normal level of the sea is determined by the total volume of water, the depth of the bed of the sea, and the conformation of the shore, etc. And though the actual level is determined by temporary factors, like the tides or the storms, the sea has always a tendency to seek its normal level.

Normal value, it should be carefully noted, is *not the average of the market values*. It is the value that will result from the working

Normal value is not the average of market values.

out to the full of a given set of influences. And the conditions which are normal under one set of circumstances will not be normal under another set of circumstances. Hence

normal value will not, in general, be equal to the average of the market values of several days. It is only by accident that it will be so.

The element of time in the theory of value: We are now in a position to understand the importance of the element of time in the theory of value. The earlier economists, notably Ricardo, stated that value was determined

Importance of the time element in the theory of value.

by the cost of production. They did not deny the influence of utility or demand on

value; utility was "absolutely essential" to value, but it was not a measure of value. Jevons went to the other extreme and stated that "value depends entirely upon utility". In a sense both were correct. In a sense both were wrong. And their mistake lies in completely ignoring the element of time during which we watch the forces determining value. If we take a very short period, we may say, as an approximately correct statement, that value depends *entirely* upon

utility. But this is not a strictly accurate statement. Though in the short period, value is influenced primarily by the forces of demand, yet the present supply also has some influence. Similarly, cost of production does not influence value except in the long period. Thus when considering the forces which govern value, we must be careful to state whether we want to determine value in the short period or in the long period. Hence the importance of the time element in the theory of value.

Marshall was the first economist to lay proper stress on the element of time. He made a division into four periods:—*short periods of a day or a week; short periods of a few months or a year; long period of several years; and secular periods of decades.* In each period, value is determined by the interaction of demand on the one hand, and supply on the other. But in the very short period, the supply will be the stock of a commodity available during that time. In the short period of a few months, the supply will refer to the amount of output that can be produced with the existing plants and machinery, etc. In the long period, the supply will mean the output that can be produced by building new machineries, by rearing up larger supplies of skilled and unskilled labour, etc. In the secular period, supply will refer to the output that will be produced with the adoption of new inventions and improvements, greater accumulation of capital, growth of population, etc.

The shorter the period, the greater the influence of demand; the longer the period, the greater the influence of cost of production on value.

The shorter the period,
the greater the influence
of demand.

The price of fish, for example, on any day will be determined by the stock of fish already on the market, and the demand for fish. If, on that day, the demand for fish

increases, its price will rise immediately, because it would be difficult to increase the stock of fish sufficiently to satisfy the demand. The predominant influence on value is exercised by demand. But if a longer period of a few weeks is taken into consideration, during which the increase of demand continues, the resulting high prices will encourage the fishermen to supply a greater amount of fish to the market by using, to the full, existing boats and nets. Demand still exercises the predominant influence, though the influence of supply is slowly and gradually asserting itself. Owing to the increase in the supply of fish, the price will have a falling tendency. If a sufficiently long period elapses, newer boats will be built, more nets will be made; and the fishermen will try to increase their catch by working longer hours, and exploiting every pond, every river, etc. The supply will increase;

The longer the period,
the greater the influence
of supply.

and demand remaining the same, the price will fall until it becomes equal to the cost of production, *i.e.*, the cost of catching the extra supplies of fish. In the secular period, if

demand remains at the high figure, more and more persons will be

trained up as fishermen, great improvements will be introduced into pisciculture, etc., etc., and the price will be equal to the new cost of production.

It should be noted that value is determined by the relations of *both* demand and supply, and not by either demand or supply alone.

Time element and demand. Marshall's illustration of a pair of scissors has already been mentioned. When one blade of the scissors is held steady and the

other is moved and does the cutting, we should not say that the cutting is done by the second blade. The other blade must be present all along, or the second blade cannot do any cutting at all. Hence value is governed, not either by utility or by cost of production, but by both. In the short period, the forces of demand exercise the greater influence; while in the long run, cost of production is the more active partner.

The total costs of a businessman can be divided into two parts, prime costs and supplementary costs. In the long run, the price

Time element and prime costs and supplementary costs. must cover the *total* costs of production. But in the short period, if the demand falls off, the producer may sell his output at a price

which will cover the whole of his prime costs and at least a part of his supplementary costs of business. Hence to a manufacturer, anxious to quote a price for his product during a falling-off of demand, the element of time is of some importance. If he considers the decrease in demand to be temporary, he will be willing to accept a lower price, rather than go without any orders. But if the fall in demand is a long-period phenomenon, he will have to close down his business and shift elsewhere.

So long we have been considering the importance of the time element from the point of view of the conditions of supply. But in order to study the conditions of demand also we must pay regard to the period of time we have in view. *The list of demand prices which is appropriate to a short-period market may not be suitable to long-period market.* The demand for a commodity, especially a new commodity, may be very small in the short period, but gradually over a long interval of time as the consumers become familiar with its consumption, as new uses for it open out, or as fashions turn in favour of the use of that commodity, its demand may rise. The demand for the radio or air travel, is a case in point.* Hence there are few problems in economic life, where the element of time is not "the source of many of the greatest difficulties."

* It should be mentioned here that Marshall thought these cases as exceptional. "Subject to a few exceptions, we may speak of the demand for a commodity as being of high or low elasticity *without specifying how far we are looking ahead.*" See *The Principles of Economics*. P. 456.

CHAPTER 17

COST OF PRODUCTION

Cost of Production: Normal value tends to be equal to the cost of production of a commodity. What is cost of production? The expression usually refers to the money cost of production or the expenses incurred by a producer in making the commodity. It is therefore equal to the sums of money that the entrepreneurs have to pay in order to attract the different factors of production into their business. It includes (a) the price of the raw materials, (b) wages of the labourers, (c) interest on capital invested in the business, (d) depreciation on account of the wear and tear of the buildings, machinery and other capital goods, (e) the normal earnings of management, and (f) the other trade expenses, (e.g., the marketing, advertising expenses, etc.).

In deciding the question whether to sell a commodity at its present price or not, the entrepreneur takes into account not the aggregate cost of production, but the marginal cost of producing the commodity. The marginal cost of production means the cost of producing a unit more or less of a commodity. Suppose when 10 units of a commodity are produced the total cost is Rs. 100; when 11 units are produced, the total cost is Rs. 109. The difference between these two total costs measures the marginal cost of producing the 11th unit. In this case, it is equal to Rs. 9. So long as the cost of producing the additional unit is less than the price at which it can be sold, the producer will gain by producing the extra unit. He will stop at the point when the marginal cost of production is equal to the price.

It is necessary here to introduce the distinction between marginal cost and the average cost of production. The average cost is determined by dividing the total costs by the total number of units produced. In the example given above, the average cost will be equal to Rs. 10 and Rs. 9.14 as when 10 and 11 units are produced. When more output is produced, the average cost of production may remain the same, or may fall or rise. When the marginal cost is less than average cost, the latter will fall as more is produced. The average cost will rise when the marginal cost is more than the average cost. When the average cost and the marginal cost are equal, the average cost will remain the same. This will be evident from the table given below.

From this table we find that upto the 13th unit, the marginal cost is less than the average cost. So the average cost is falling even though the marginal cost is rising. The marginal cost and the average

No. of units produced 1	Total Cost 2	Average Cost (2÷1)	Marginal Cost
10	Rs. 100	Rs. 10	
11	Rs. 107	Rs. 9-11-7	Rs. 7
12	Rs. 114-8	Rs. 9-8-8	Rs. 7-8
13	Rs. 122-12	Rs. 9-7	Rs. 8-4
14	Rs. 132-3	Rs. 9-7	Rs. 9-7
15	Rs. 143-0	Rs. 9-6	10-13
16	Rs. 155-0	Rs. 9-11	Rs. 12

cost are the same for the 14th unit. So the average cost remains the same for this unit as for the 13th unit. Further production makes the marginal cost higher than the average cost. So the average cost is rising from the 15th and the 16th units.

Price of a commodity, we know, tends to be equal to the marginal cost of production. But it may or may not be equal to the average cost, as the two may not be equal. What is the relation between the average cost and price? If the price, being equal to the marginal cost, is above the average cost per unit (the marginal cost being higher than the latter), the entrepreneur is earning high profits on the average. He will therefore, given perfect competition, tend to produce more of the commodity, as by doing so he will be able to add to his profits.

The output will therefore tend to increase. Relation between average cost and price. As the marginal cost is higher than the average cost, the additional output will be produced at higher average cost than before. This will go on upto the point at which the producer will find that the average cost also becomes equal to the price. He will not produce any more as then the average cost will be higher than the price, and so his total profits will begin to decline. If, however, the price is lower than the average

cost, the firm must be undergoing losses, and so will tend to cut down production. In equilibrium, the price must also be equal to the average cost under perfect competition. It is also equal to the marginal cost of production. So, under perfect competition, both the

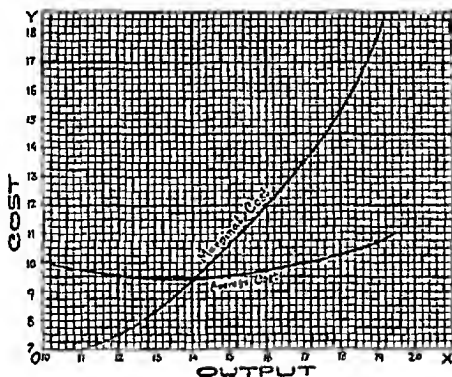


Fig. 10

marginal cost and the average cost will tend to be equal to each, and to price. This will happen when the scale of output of each firm is such that there are no further economies of large-scale production available to the firm (*i.e.*, the average cost will not fall); while the law of diminishing returns has not yet come to operate (*i.e.*, the average cost will not rise). The size of each firm is therefore such that it has availed itself of all the economies of large-scale production, while any further expansion beyond that point will cause the costs to go up. In other words, in equilibrium under perfect competition, the firms will be of the optimum size, and the price will be equal to the lowest average cost.*

Costs and Price in relation to time. A business man's reactions to changes in demand in relation to the output he produces will vary to some extent on the period of time taken into consideration. Hence it is necessary to study the relationship of cost to time. The total costs of businessmen have been divided by Marshall into two parts:—prime costs and supplementary costs.

* This discussion assumes the existence of perfect competition. The relationship of cost with price under imperfect competition is discussed in Chap. 21.

Supplementary costs are those permanent charges which every businessman must incur even though his business has ceased working for the time being. These are better described

Supplementary costs. in business language as 'overhead costs' and include the salaries of the chief officers, the expenses on account of the depreciation of plants, interest on borrowed capital, and the expenses on account of power, lighting, insurance and repairs, etc.

Prime costs are those items of expenses, over and above the fixed expenses, which have to be incurred in producing a commodity. They

Prime costs. include the cost of raw materials and the wages of the ordinary labourers. Prime costs are those costs which will cease when the firm stops working for the time being, say, for want of orders. But the supplementary costs will continue. The latter will only cease when the business is finally closed down. An illustration will make the distinction clear. Suppose during a slack season, a textile mill of Bombay does not get orders for textiles, it will still have to meet the general expenses of its office establishment. These are its supplementary costs. But when it gets orders for certain amounts of piece-goods, it would have to buy cotton and employ extra labourers, especially the day labourers and those engaged on piece-work. It will then have also to make extra allowance on account of the wear and tear of the machinery. This is its prime cost. Of course, in real life, there is no sharp line of division between these two classes of costs. For, during a slack season, the firms may reduce its general expenses by dismissing the inefficient employees, by not filling vacancies, etc.

This distinction is, however, of great practical importance in the theory of value. In the long period, the price must cover the total

In the long period, both the costs must be covered by the selling price. costs of a businessman; otherwise he would not continue to produce at a loss. Hence in the long period, the distinction between prime costs and supplementary costs has no special importance. But not so when the period is short. Usually even in the short-period market, the businessman will try to sell at a price which covers his total costs. But that may not be always possible; for we have seen that value in the short period is more influenced by demand than by cost of production. If the demand for a particular commodity falls off during the short period a producer has two alternatives before him: he may either totally close down his factory, or he may sell his output at what it will fetch in the market. If the fall in demand is a temporary phenomenon, he will not choose the first alternative; for once the business is closed down finally, and all the

hands discharged, it would be difficult to restart again when demand revives. Hence he will be willing to accept a lower price, which, though not covering his total costs, would still cover the whole of the prime costs and at least a part of the supplementary costs, rather than stay idle. This will not be the case if he fears to "spoil the market," i.e., to ruin his chance of getting a better price afterwards, or to incur the resentment of other producers. If the supplementary costs of a business are very large, if expensive machineries have been installed, a producer will accept a low price for the time being, a price that will cover at least some part of the fixed expenses. In exceptional circumstances, the producers may accept a price that will barely cover the prime costs. But usually the supply price for short periods remains above the prime costs.

This distinction is also of importance with regard to commodities which are joint products. There is usually some supplementary cost of producing the joint products, like wool and mutton there are also some prime costs involved in preparing wool and mutton for their separate markets. The price of wool and of mutton must at least cover the prime or separate costs. But the price of each will, except in exceptional circumstances, be above these costs and must cover some part of the supplementary costs. The major portion of the supplementary costs will be charged to the price of that article for which demand is more inelastic, or less elastic, while the other commodity will bear a smaller portion of the joint costs. Or, certain goods may be used as a means of advertising others, and will be charged with a smaller part of the joint costs.

Real cost and Opportunity cost: We have so long been discussing the money costs of production. Economists have tried to probe behind the money cost. Utility or the preferences of the consumers lie behind the demand curve. But what lies behind the money costs? In other words, what are the ultimate costs which lie behind the money costs of production? Following the classical economists, Marshall thought that money costs represented *real costs of production*, i.e., the sum of the efforts of working and the sacrifice involved in saving or waiting. The real costs of producing a commodity are to be measured by the efforts and exertions undergone by the labourers and the entrepreneurs and the sacrifice which the capitalist classes have made to save the requisite amounts of capital.

That a great part of work is painful and disagreeable is beyond dispute. That saving denotes the sacrifice of the present consumption

is also admitted. But what is the proper relation between money costs and real costs? Suppose work becomes less disagreeable and more pleasing, would the rate of wages fall down? Certainly not. Moreover, not all kinds of labour involve pain. The most highly paid work is generally enjoyable. Hence it is idle to say that value is in part a compensation for any real cost in labour. Moreover, there is no standard by which we can equate the real cost of labour with the real cost of saving. How the painful effort of the labourer and the sacrifice of the saver are to be measured so that we can be sure that one rupee worth of interest is the reward of a sacrifice equal in real cost to the effort of which one rupee worth of wages is the reward? The doctrine of real cost would thus 'lead us into a quagmire of unreality and dubious hypothesis.'

Criticism of the doctrine of real cost.

But if money costs do not represent pains and sacrifices, how are they fixed? *The cost of a business are those payments which must be made to the different factors of production in order to attract them into that business from other lines of production.* Our means are short and limited. Hence if we are to employ a certain amount of each of the factors of production in one business, that means that other businesses would be deprived of their services. And in order to attract the factors to any line of business, we must offer them at least as much as they would have got in other occupations. The sum of these offers is the cost of production of the present business unit. This is, in short, the underlying idea beneath the theory of opportunity cost.

Meaning of opportunity cost.

Thus, what labour would get in one employment would depend on what it can get elsewhere. What rates of interest capital would be entitled to get in this industry would depend on what it can get elsewhere. What the entrepreneurs can get as their normal earnings of management would depend on what they can obtain as salaries when employed as managers by the joint-stock organisations. In this way, the cost is the cost of 'displaced alternatives'. The cost of producing a thing would be determined by the value of the thing that has not been made, but could have been made by the displaced factors of production. The unborn is the cost of the horn.

Money costs represent the costs in alternative employments.

Similarly, the utility of one thing to a person will depend upon other things that he will have to surrender. Our desires are long and unlimited, but life is short, and so also our means. Hence the enjoyment of one sort of pleasure means the foregoing of some other pleasures. Man's life in its economic aspect is thus a continuous

* Henderson. *Supply and Demand*. P. 164.

tragedy. The cost of obtaining a thing is therefore what must be surrendered in order to get it. The cost of a few hours of work is the leisure that we would have to forego.

Such is then the doctrine of opportunity cost. "The real cost of anything is the curtailment of the supply of other useful things which the production of that particular thing entails." Cost tend to equal the payments that the factors of production would have got in alternative employments. Now this means that the supply of the factors is fixed, which is of course a fact; for economic science deals with scarce means. But it has been argued that where the supply is variable, the doctrine of real cost could provide a satisfactory explanation of cost.* But even if the supply is variable, the concept of opportunity cost holds good. "Variation in the supply of land in production are accompanied by changes in the supply of land put to consumption uses.†"

* Edgeworth. *Papers relating to Political Economy*. Vol. III, P. 56
—64, Also Robertson. *Economic Fragments*. P. 21.

† Robins. "Certain aspects of the theory of costs." *Economic Journal*,
March 1934, P. 24.

CHAPTER 18

CHANGES IN DEMAND AND COST

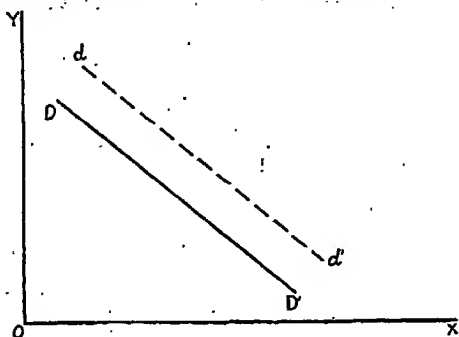
We pass on to a consideration of the effects of changing conditions upon the values of different products. We proceeded so long on the implicit assumption that the conditions of demand for a commodity remain stable over the given period under consideration, and that as the supply increases or decreases, the cost of production per unit remains the same. We must now remove these assumptions, and study the effects of changes in demand upon prices and the relation between varying costs and value.

Increase of Demand: The demand for a commodity may increase or decrease during a given period. At the outset, we must however be clear about the meaning of the expression "increase or decrease of demand." The phrase, "increase of demand" may be used in two different senses. First, it may refer to the fact that demand at a low price is greater than that at a high price, while the demand at the old price has remained unchanged. Thus if, owing to some changes in the conditions of supply, the price falls the amount demanded will increase. In this case, the *demand schedule has not changed*. Because of the fall of prices, there has been an increase in the amount demanded. Secondly, it may mean that the amount demanded has increased at the same price. This may be due to some changes in the tastes, fashions or customs. In this case, *the entire demand schedule has been changed in the upward direction*.

This is represented graphically in Fig. 11. As usual, OY measures the price of the commodity, and OX, the amount demanded at different prices. The original demand curve is DD'; it shows the different amounts that buyers will purchase at different prices. When we say that demand has increased, the entire demand curve is shifted upwards, and the new curve will be dd', because in this case, buyers are willing to pay higher prices (measured by the differences between the two curves, DD' and dd') for all quantities of the commodity.

Changes of Demand in the short period: In the short period, the supply of an article is fixed for the time being. Hence if the demand for an article increases in the short period, its value must rise. But if its supply can be increased to some extent, its value will still rise, though not to the previous high figure. As the period under consideration is short, the factors of production that are necessary for producing that commodity cannot be attracted into that industry within such a short period of time. The sellers will, however, try to bring about an increase in supply by depleting their normal stocks,

by trying to get more out of the existing plants, speeding up the present productive organisation. That may mean some increase in the supply of that article. But even this increase will fail to satisfy the increase in demand. Hence its price will rise in the short period. Conversely, if the demand falls in the short period, the price will fall.



: Fig. 11

If the period is long enough, the supply of the article will tend to increase. After working the existing productive machineries to the full, entrepreneurs will try to expand their business. More factors of production will be attracted into that industry from others; larger amounts of capital will be invested; better and improved types of machineries will be adopted. As a result, the output will increase. And if the commodity be one whose production obeys the law of diminishing returns, the increased output will result in higher cost of production per unit. Hence its price will rise in the long period. But if the production of that commodity obeys the law of increasing returns, the increased output will mean lower costs per unit, and hence the price will fall in the long period. Thus if the increase in demand persists in the long period, the price will rise, if the commodity be subject to the law of diminishing returns; and it will fall, if it obeys the law of increasing returns. The converse happens if the demand decreases in the long period. The value of a commodity subject to the law of diminishing returns will fall; while that obeying the law of increasing returns will rise, but not to the former level. For the external economies that were obtained when the output was greater would not be altogether lost when the output became less; and the cost of production per unit would not rise upto the old level, but would be slightly less.

Hence we can see that if the consumption of wheat increases, the price of wheat will rise in the short period. It will also remain at a higher figure in the long period, for the production of wheat obeys the law of diminishing returns. But in case of steel manufactures, though the price rises in the short period, it will fall in the long period; for the production of steel manufactures obeys the law of increasing returns.

Changes in Supply and Cost: One of the important factors influencing value is cost of production. Now the cost of production per unit of output may be uniform throughout, whatever the volume of output. Or it may change with either increase or decrease in the scale of production. The cost per unit may increase with every increase in output; it may also decrease as production increases. In the first case, the industry is subject to the law of constant returns; in the second, to the law of diminishing returns; in the third, to the law of increasing returns. What is the relationship of these laws of return to the theory of value? It should be noted here that throughout this chapter, *only the forces : . . . in the long period will be taken into consideration.*

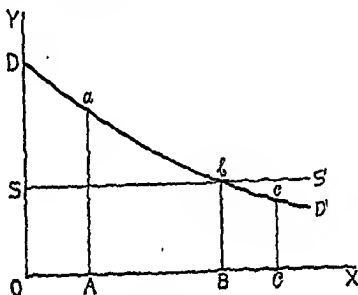


Fig. 12

Value and the Law of constant returns: If the commodity whose value is under consideration obeys the law of constant returns,

Value is equal to cost and output is determined by demand.

then whatever the volume of output, the cost per unit will be the same. The price of the commodity will then be equal to the cost of production of any unit, and the actual volume of output will be determined by the influences of demand. As demand increases, at first the price will rise. The supply will increase, until the price will again be equal to the cost of production. If the

demand falls off, the supply will decrease. Thus equilibrium will be established at that level of price where it is equal to the cost of production, and where the demand at that price will be fully satisfied.

The law is illustrated in Fig. 12. DD' is the demand curve for any commodity. SS' is the supply curve, since cost per unit is the same, whether OA or OB or OC amount is produced, the SS' curve is a straight line parallel to OX , the distance between them depending on the amount of cost. The two curves intersect each other at b ; the price will be then equal to bB , and OB amount will be produced. If the actual price is equal to (say) aA , sellers will be getting very high profits. Output will expand, price will fall. Conversely, if the actual price is less than bB , i.e., equal to cC , then cost will be higher than price and sellers will be unable to sell at a profit. Output will contract until the price becomes equal to bB .

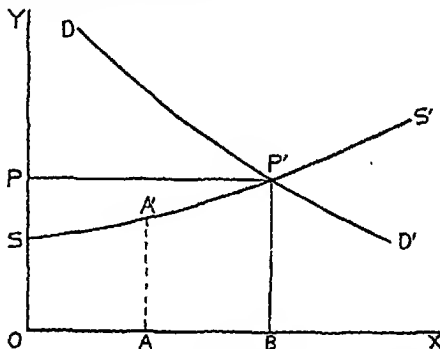


Fig. 13

Value and the Law of Diminishing Returns: When a commodity obeys the law of diminishing returns, the cost per unit will increase as the output increases. The price must be such as will cover the cost of producing the most expensive unit that is demanded. Let us take a concrete case.

When cost rises with increase of output marginal cost means the highest cost.

Everyone knows that the cost of producing coal from the different coal mines varies enormously. In the mines which are richer, and better situated, the cost is low; while in the poorer and less favourably situated mines, the cost is high. The theory states that value in the long period equals the marginal cost of production. Now what do we mean by the marginal cost of production?

Is it the cost of working the richer mines; or of the poorer mines, or an average of the costs of all the mines? Clearly if value is equal to the cost on the superior mines, the inferior mines would not be worked at all. For no business can continue producing at a loss for a long time. If these inferior mines are to be worked at all, the price must cover the costs on these mines. Thus it is the cost of production on the 'marginal mines,' (*i.e.*, those which are just profitable to work), to which value will tend to gravitate in the long period. The margin will shift backwards or forwards as the demand increases or decreases. The concerns which remain above the margin get the prevailing price; and as their cost, by hypothesis, is lower, they reap an extra profit which is of the nature of rent. Just as there is an extensive margin, so also there is an intensive margin in every coal mine. The first few doses of labour and capital as applied to the (say) superior coal mines will yield coal whose cost is below the price. Lured by profits thus made, the producers will go on applying additional doses of labour and capital; output increases, and with it cost goes on increasing until on the last unit of coal produced, the outlay and price are equal. On every land, every mine, etc., there is an intensive margin, when the cost of the last unit of output is equal to the price. Hence when an industry is subject to the law of diminishing returns, the *marginal cost of production is the cost of producing the last or the most expensive unit of output in every firm*, and value will tend to equal this in the long run.

Let the amount of output be measured along OX, and the cost per unit along OY. The curve SS' will represent diminishing returns. This intersects the demand curve DD' at P'. P'B will be the equilibrium price. If the price settles at any other point, *e.g.*, AA', demand price will be higher than the supply price, and so the output will tend to increase. The area PSP' measures the amount of rent (see the Chap. on Rent).

Value and the Law of Increasing Returns.*: When a commodity obeys the law of increasing returns, how are we to determine its marginal cost of production? Is it

Difficulties of determining value in the case of increasing returns.

the cost of the most efficient firm, or the average cost of the industry as a whole? It cannot be the cost of the most efficient firm;

for its expenses of production are the lowest and if price is equal to this low figure, the less efficient firms will be driven out of production, and the best firm will acquire a monopoly of the whole market. Such a thing occurs frequently in actual life. But when it happens, it is a case of monopoly, and value will then be determined by different principles. But since we assume perfect competition, the price must be higher than the cost of the best firm. Also it cannot

* See Ch. 13 for the discussion of cases where I. R. is possible.

be the cost of the least efficient or the highest cost firm, for the marginal firm is not earning any profit at all, or it may actually be run at a loss. But in the long period, value must cover the normal profit. Hence the marginal cost of production that equals value in the long run cannot be the cost of the least efficient firm. It cannot be equal to the average costs, for it is very difficult to know the average costs of a great number of firms producing under a variety of conditions. Moreover, the marginal cost of production may be taken to mean the cost of producing the last unit of output that is produced. But clearly value cannot be equal to this cost; for, owing to the operation of the law of increasing returns, as the cost decreases with every increase in output, the cost of the last unit is the *lowest* cost. The other units are produced at higher costs. And if value is equal to the lowest cost in the long run, the other units will have to be sold at a loss. But such cannot be the case in the long run. Lastly, we have stated in the previous section that the marginal cost of production, in the case of a commodity produced under conditions of diminishing returns, is the cost of producing the last or the most expensive unit in *every* firm. In every firm, there is either an extensive or an intensive margin where the cost of producing the last unit is equal to its value. Hence we can take up *any* firm, and study its cost of production per unit to know the marginal cost of production. But such is not the case when the industry is subject to the law of increasing returns. Though when the whole industry is in equilibrium with demand, the individual firms composing it may not be in equilibrium. Some firms, especially the young ones, will be rising steadily; others, like the old firms, will be decaying. The young businessman, when starting a firm, may be actually undergoing losses. But he will still struggle on, in the expectation that he is making good and slowly gaining a footing. Gradually, if he is abler, he will manage to get loans, go on expanding his business, until he will reach the summit of his powers. As he becomes old, his business is likely to decay. Thus the different firms of an industry may be rising or falling simultaneously when the industry is progressing; "as the leaves of a tree grow to maturity, reach equilibrium, and decay many times, while the tree is steadily growing upwards year by year."* Hence by taking up any firm at random, we cannot always find the normal cost of production of the industry.

There is also another reason why it is not useful to "regard the conditions of supply by an individual producer as typical of those which govern the general supply in a market."† In industries which obey the law of increasing returns, supplementary costs are likely to be relatively a large proportion of the total cost. Their production

* Marshall. *Principles of Economics*. P. 457.

† *Ibid.* P. 459.

requires a large investment in machineries, building, etc. Owing to the existence of such large overhead costs,

The history of an individual firm cannot be made into the history of the industry.

it becomes difficult to adjust the business to the fluctuations of demand. When business is slack, the producers, fearing to 'spoil' the market, act cautiously and do not quickly correct the maladjustment. Conversely,

when demand increases, the large investment of capital that is required to start a firm retards entry into the industry. And so the producers reap a large quasi-rent. There are always great variations in the costs of production of the different firms. Thus "the history of the individual firms cannot be made into the history of an industry." Therefore in order to know the marginal cost of production of the industry, relative to an aggregate scale of output, we must go to the *representative firm*. It is the marginal cost of production of the representative firm to which value tends to gravitate in the long run.

Representative Firm: The concept of representative firm has been introduced by Marshall to find a solution for the difficulties of

Necessity of the concept of the representative firm.

determining the normal value of commodities whose production obeys the law of increasing returns. Value is determined by the equilibrium of marginal utility and marginal cost

of production. But the term 'marginal cost of production', 'has no significance for long periods in relation to commodities the cost of production of which diminishes with a gradual increase in output'. It is not the cost of the best firm, nor that of the least efficient firm. Neither is it the cost of producing the last unit of output. Moreover, in case of industries obeying the law of diminishing returns, we can know the margin of production by studying the conditions of *any* firm taken at random. But in the case of increasing returns, we cannot take any firm at random. We must go to the representative firm, a firm which represents faithfully the long period influences determining value in relation to an aggregate scale of output.

A representative firm is one "which has had a fairly long life and fair success, which is managed with normal ability, and which

What is a representative firm?

has normal access to the economies, external and internal, which belong to that aggregate volume of production".* Value in the long

run will tend to equal the marginal cost of production of such a firm. A price higher than this will lead to an increase in the size and the output of such a firm; while a price lower than this will tend to decrease them. When value settles at that figure, there is equilibrium and no tendency towards an increase or decrease of the output of the industry as a whole.

* Ibid. P. 318.

Is representative firm an average firm? It is not an average of the existing firms. It is a long period average firm, under conditions when all the present tendencies have reached

(a) Is it average firm? a state of equilibrium. It has been asked† whether it was a "representative plant, or technical production unit, or a representative business organisation." But it should be noted that business is an organic whole and should be considered as a whole. The representative firm is therefore representative of every aspect of the firms of the industry, when a given aggregate volume of output is produced. That is the purpose of Marshall's statement that it 'has normal access to the *economies, external and internal, which belong to the aggregate volume of production*'. Again it has been asked whether the representative firm was representative of *size*, or representative of *cost*.‡ Though Marshall is inclined in some places to lay stress on size, he had clearly in mind the fact that it was representative of the normal cost of the industry. That is also the opinion of Robertson; "in my view . . . it is not necessary to regard it as anything other than a small-scale replica of the supply-curve of the industry as a whole."*

Pigou has a similar concept. According to him, even when the whole industry is in equilibrium, *i.e.*, when the industry produces a given output y in response to a given demand

Equilibrium firm. represented by a normal price p , the different firms composing the industry may not be in equilibrium. Some may be rising while others are declining. But there *can* exist some one firm, which, when the industry is in equilibrium, will itself be in equilibrium, producing a regular output in response to the normal supply price. Such a firm he christens an *equilibrium firm*†

Such is then the concept of the representative firm. It has been vigorously criticised in recent times. We have already examined some

Criticism. of these criticisms and seen that the representative firm was an average of a special kind, a long-period average firm; that it represented the business-as-a-whole, instead of any of its particular features. The real difficulty lies with regard to another problem. Is it possible that in the long run, when the industry is in equilibrium, there may exist some firm or firms, which are actually producing at a loss? If such a firm exists, then its costs cannot represent the long-

† Robbins. "The Representative Firm." *Economic Journal*. Sept. 1928.

‡ Maxwell. "Some Marshallian Concepts." *American Economic Review* Dec. 1929.

* Robertson. "Increasing Returns and Representative Firm." *Economic Journal*. Mar. 1930. P. 89.

† Pigou. *Economic of Welfare*. 3rd Ed. P. 788.

period supply-price of the industry as the long period supply-price must include normal profit. But Robbins denies this position. In the long run, no entrepreneur, unless he is of sub-normal efficiency, will be producing at a loss, for in that case he will shift to other industries. Equilibrium can only exist when an entrepreneur of normal efficiency must reap as much profit in that industry as he could have earned in other lines of production. "*There is no more need for us to assume: a representative firm, or a representative producer, than there is for us to assume a representative piece of land, a representative machine, or a representative worker.*"* All factors must earn normal earnings in the long period. So the producers must also earn normal profits. Otherwise there will set in a tendency to shift, and equilibrium will be disturbed. Marshall and Pigou think otherwise. In their opinion, even in the long period when the whole industry is in equilibrium, there may exist certain firms of normal efficiency which are producing at a loss. All that is necessary for equilibrium to exist is that the tendency to expand on the part of young firms will be offset by the opposite tendency to decline on the part of the old firms. That is the real purport of Marshall's analogy of trees. Firms have a definite life like individuals. Like the latter, the former pass through the seven stages of life. It is therefore not necessary for equilibrium to exist that a particular firm's output should be in equilibrium when the industry is in equilibrium. The concept of representative firm is therefore quite appropriate to a study of the long period supply price of an industry.

The practical utility of the doctrine has been called in question. The representative firm is not an average of actual firms in the industry.

No firm in the business directory, says Robertson, can be said to represent the representative firm. It is a long-period average firm when the given economic forces have reached the state of equilibrium:—a concept of the 'stationary state'. Hence the practical usefulness of the doctrine is limited. But the researches of Chapman and Ashton into the sizes of the business units in the Lancashire textile industry† have shown that "this conception is appropriate to actual conditions". This has also been corroborated by Taussig from his experiences of the working of the Price-fixing Committee of the U. S. A. during the war.‡

But the more fundamental criticism which cuts at the very root of the doctrine is that where increasing returns prevail, the resulting

* L. Robbins. "The Representative Firm." *Economic Journal*, Sept. 1928. p. 393.

† *Journal of the Royal Statistical Society*. June, 1914.

‡ "Price-fixing as seen by a Price-fixer." *Quarterly Journal of Economics*. Nov., 1919.

situation in the long period is a monopoly. The representative firm analysis presupposes the existence of competitive conditions in the long period. There exist *several* firms whose costs greatly differ. And it is only the costs of the representative firm which is equal to the normal supply-price relative to an aggregate output. But if the tendency to decreasing costs continues in the long run, there will exist, not several firms in that industry, but only one firm or a few firms. So long as it is possible for a firm to secure more and more economies as it expands in size, it will go on producing larger and larger output to get the benefit of lower costs. If the firm has an early start, or if it is managed by a dashing entrepreneur, it will beat all its rivals by selling at lower prices, and will ultimately capture the whole market. The resulting situation will then be monopoly. Or as a firm expands in size to avail itself of the economies of large-scale production, it will come to produce a large part of the total output in the industry. Competition will then cease to be perfect. Value will be determined as under imperfect competition.* In any case there is no place for the concept of representative firm in the theory of value. If perfect competition exists in the long run, the tendency to increasing returns must have exhausted itself. Each firm will then be of the optimum size, producing at the lowest average cost, and price will be equal to that cost.

But this criticism postulates that each individual firm has already reached the state of equilibrium under perfect competition. That may not be the case. Marshall had in mind an imaginary situation in which the market was perfect, but in which the individual firms took time to reach the optimum size. In the long period, or quasi-long-period, all firms have not yet reached their equilibrium size, but the industry may be in equilibrium. The marginal analysis cannot satisfactorily explain this situation, for the marginal firms (but of normal efficiency) may be producing at a loss. It is thus a highly useful analytical tool, "with the aid of which the reaction-mechanism postulated by the supply-curve can be, if not analysed, at least rendered plausible."†

* Sraffa. *Economic Journal*, 1928, p. 336.

† Kaldor—"The Equilibrium of the firm". *Economic Journal*, Mar., 1934. p. 62.

CHAPTER 19

INTERDEPENDENT PRICES

Thus far we have proceeded on the assumption that the price of a commodity can be determined independently of the prices of other goods. But the prices of two or more goods may be so inter-related that a change in the demand for or supply of one will affect the demand or supply of one or the price of others. We are now going to consider the cases of such inter-relationship of prices.

Joint Demand: *Goods are said to be in joint demand when they are jointly demanded to satisfy a particular want, or to produce a particular thing.* A motor car and petrol jointly

Complementary goods. satisfy the demand for a motor ride. They are said to be in joint demand. So also there is a joint demand for pen and ink; tea, milk and sugar, (for making tea), etc. But the most important illustration of joint demand is found in the case of factors of production which are required to produce a thing. For example, various groups of labourers, like the plasterers, the masons, the carpenters, and various kinds of materials like brick, lime, cement, etc., are jointly demanded to build a house. These articles are also known as *complementary goods*. The demand for the ultimate product which the factors of production help to produce is said to be direct demand; while the demand for the factors of production is derived from the original demand for the product, and is, therefore, said to be indirect, or derived demand.

What modifications does this fact introduce into the theory of value? In case of articles which are jointly demanded, it is difficult to estimate their separate demand schedules. Now the utility of raw cotton, textile machinery, etc., is derived from that of the shirt. But how much of the utility of the shirt can we ascribe to raw cotton, and how much to the textile machinery? There are no means of knowing that. How are we then to determine the value of things that are jointly demanded?

The marginal analysis enables us to tackle this problem. In case of things jointly demanded, we can know their marginal utility by changing the amounts of one thing, while keeping the supply of others constant. In other words, by substituting a little more, or a little less of this or that thing (while keeping other things constant), we can measure the marginal utilities of a commodity. Bread and butter are jointly demanded. Assuming that the quantity of bread remaining the same, that of butter is increased by a small amount. How much additional utility will then be enjoyed by a consumer? This would

measure the marginal utility of butter to the consumer. Or to take another illustration, let us suppose that two different methods can be followed in the manufacture of cotton piece-goods—we can use three looms per worker, or we can employ four looms per worker. The increase in the output of piece-goods that will result in the second case can approximately be attributed to one loom, i.e., to one unit of capital. We can then regard this extra product as the marginal product, or the marginal utility of one unit of capital. *Thus by varying the proportions between the different factors which are in joint demand, we can know the separate marginal utility of each.*

So the difficulty that threatened us at first can after all be solved. In case of commodities in joint demand, we of course know the marginal cost of production of each. Now we have seen that we can also know the marginal utility of each. Value will settle at that figure which equates the marginal utility and the marginal cost of production.

Under what circumstances may a factor of production, which is jointly demanded with others for the production of a consumable commodity, be able to obtain higher prices for its services? As we know, in building a house, various kinds of labour, such as that of masons, plasterers, carpenters, are jointly demanded. Let us suppose that there is equilibrium between the demand and supply of buildings, and of the factors required to produce them. Now the plasterers have gone on strike for higher wages. Under what circumstances will they be able to obtain higher wages?

The first condition is that the plasterer's labour must be indispensable, and there are no good substitutes available. In technical language, the demand for the services of that factor must be inelastic. The necessity of this condition is obvious, since if their services can easily be dispensed with, the plasterers will not be able to get higher wages. The second condition is that the demand for the ultimate commodity for whose production that factor is used must also be inelastic. To take up our illustration, if the demand for buildings is inelastic, a fall in their supply would raise their price very much. The strike of the plasterers would lead to a stoppage of building construction, to a fall in their supply, and hence to a great rise in their price. Lured by this high price and the consequent high profits, the builders would be willing to pay higher wages to the plasterers. The third condition is that the price of that factor must form a very small part of the total cost of production. In our case, the total wages-bill of the plasterers should form a small part of the total cost of the buildings. They must possess, in the words of Henderson, "the importance of being unimportant." Since their wages form a very small part of the total cost, a slight rise in wages would not materially add to the total cost. And so businessmen may prefer to satisfy their demand. The fourth condition is that the other co-operating factors

should be "squeezable". A slight fall in the demand for other factors should lead to a considerable fall in their price, leaving a sufficient margin available for the payment of a higher price to the original factor. In our case, if, owing to a stoppage of building construction, consequent on the plasterer's strike, the masons and carpenters, having no alternative occupations, are willing to accept lower wages, then the plasterers can be paid higher wages out of the balance thus available.

If any of these conditions is satisfied, the particular factor will be in a position to obtain higher earnings.

Joint Supply: *When two or more commodities are produced with the same joint cost in such a way that the production of one would automatically involve the production of others,*

Meaning of joint supply. they are said to have a joint supply. They are also called 'joint products' or 'joint-cost' products. Good instances of joint supply are cotton seed and cotton fibre; wool and mutton; gas and coke, etc. The most important characteristic possessed by them is that the investment of labour and capital in the production of one would automatically lead to the production of the others. In case of joint products, the less important products, i.e., those whose prices are low, are generally called 'by-products.'

How is the value of joint products determined? We only know the *total* cost of producing both wool and mutton. But we are not in a position to know the *separate* cost of production of either. And since we cannot disentangle the cost of each, how can we determine their price?

For the purpose of analysis, we shall divide joint products into two groups. There are certain products whose relative proportions can be varied. Wool and mutton belong to this section. By suitable cross-breeding, we have a breed of sheep, which yields more

Division of joint products into two classes. mutton and less wool, or less mutton and more wool. In this way, the production of wool and mutton that can be obtained from sheep can be varied. Secondly, there are certain products whose relative proportions cannot be varied, at least by man. The proportion of cotton fibre and cotton seed that will be produced from a given amount of cotton crop is more or less fixed by nature.

If the joint products belong to the first group, i.e., if their relative proportions can be varied, the marginal analysis will be adequate to explain the price of each. We need not know the aggregate cost of producing either wool or mutton. But if we can only determine the marginal cost of either, i.e., the cost of producing additional units, or one unit more or less, we can determine the value of each. For value, as we know, tends to equal the marginal cost of production in the long run. Now let us calculate the cost of breeding a number of sheep, which would yield a certain amount of wool and of mutton;

and also the cost of rearing a number of another breed of sheep, which would yield the *same amount of wool*, but a different amount of mutton. The difference of cost in the second case over that in the first case may be ascribed to the extra mutton that is produced in the second case. The extra cost is therefore the marginal cost of mutton. And the price of mutton will tend to equal this in the long run. An illustration would make the point clear.

Suppose that a certain breed of sheep, costing Rs. 12 each, would yield 9 units of wool and 11 units of mutton. Another breed costs Rs. 10, and would give 8 units of wool and 9 units of mutton. Then 8 sheep of the first type would yield 72 units of wool and 88 units of mutton; costs are equal to Rs. 96. From 9 sheep of the second type, we get 72 units of wool and 81 units of mutton; costs being Rs. 90. Therefore we get additional 7 units of mutton by spending Rs. 6 more. The marginal cost of one unit of mutton is 13s. 8p. Similarly, from 9 sheep of the first type, we get 81 units of wool and 99 units of mutton, costing Rs. 108. From 11 sheep of the second breed, we get 88 units of wool and 99 units of mutton, expenditure being Rs. 110. Thus we get additional 7 units of wool by spending Rs. 2 more. The marginal cost of one unit of wool is then 4s. 7p.

It remains to add that such variations are possible in real life. When the Australian wool found a good market in England, the Australians bred a type of sheep which yielded more wool and less mutton. When at the beginning of this century, cold storage made the export of mutton possible, another breed of sheep was reared which yielded more mutton and less wool than before.

But if the joint products belong to the *second section i.e.*, if their proportions cannot be varied, it becomes difficult to disentangle their

Those whose proportions cannot be varied. each will then be determined by two principles. *First*, the total cost of producing both cotton fibre and cotton seed must be covered by the total sale proceeds. The price of each must be such that when the total supply of both is sold, the total sale-proceeds must be equal to the total cost. *Secondly*, the separate price of each would be determined by marginal utility of each to the consumers. It will be determined by the principle, known as '*what the traffic will bear*' i.e., what the thing will fetch in the market. But separate prices must be such that the total sale proceeds cover the total cost.

The case is illustrated in Fig. 14. The supply curve SS' measures the total cost of producing cotton fibre and seeds; dd' measures the demand for cotton seeds. PM therefore measures the price at which OM units of seeds will be sold. From P , draw a line PP' to measure the demand price for OM units of cotton fibre. The locus of P' will be the curve DD' which intersects the supply curve at B' . In equilibrium cotton seeds will be sold at the price aB , and cotton fibre at the price aB' .

But another condition may also be found. Each of the commodities would involve some separate or prime costs in preparing them for the market. These prime costs provide the limit below which the price

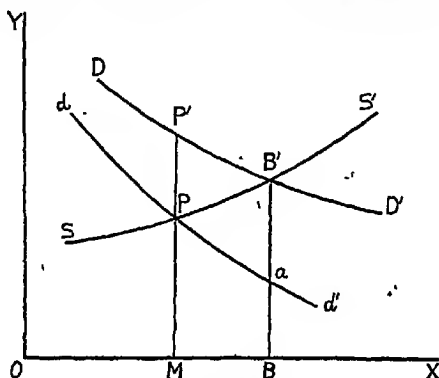


Fig. 14.

cannot fall. The price of cotton fibre must at least cover the prime costs of marketing it. How much of the supplementary or joint costs would be charged to each would depend on how much burden each would bear, i.e., on the elasticity of demand of each.

What happens to the price of one product when the demand for the other increases or decreases? Gas and coke are examples of such joint products. What happens to the price of coke when the demand for gas increases? Clearly the greater demand for gas would raise its price; and the producers will be making extra profits by the sale of gas. But the increased supply of gas would also mean an increased supply of coke. The demand for coke remaining the same, the price of coke would fall.

Importance of Joint Products: "Cost of production is coming more and more to mean joint cost." The improvements in the arts of production, the application of science to industry have led to the utilisation of many articles which were previously considered as

wastes. It is seldom that a plant is devoted to the production of a single article. Certain other commodities are usually found associated with the main product. The application of science has led to the utilisation of these by-products. Coal-tar is an apt illustration. A by-product of coke, it was at first considered as merely waste material. But now it has become the important raw material for a great variety of products, e.g., naphtha, dyes, paraffin and candles, etc.

Element of Joint Cost in Railways: Is the industry of railway transportation a case of joint cost? According to Taussig, it is; but according to Pigou, with few exceptions, it is not. The discussion of the question is important; for it explains the way in which railway rates are fixed.

According to Taussig, "when a large plant is used for diverse purposes, the case is so far one of production at joint cost."* In the railway industry, the supplementary costs, *i.e.*, the expenses of laying down the road-beds and of building wagons, engines and other plants, are a very large fraction of the total costs of railway construction. The operating expenses, *i.e.*, the cost of maintaining the permanent way and rolling stock and the expenses in connection with the station staffs, are also very large and more or less, fixed. These expenses have to be incurred whether the railway plant is fully worked or not. Moreover, there are no means by which the expenses in connection with any particular service, *e.g.*, the exact cost of carrying passengers or goods, can be separately determined. We cannot assign any of these general expenses either to the freight or to the passenger services. There is also a second reason why the railways show the characteristics of joint cost. The various classes of markets for which the railways cater,—the sale of transport to passengers and to goods, the sale of transport to the coal merchant and the copper merchant,—are independent of each other. The demand schedule for transport services on the part of the coal merchant is quite different, and in no way connected with the demand of the copper merchant for transport. These two characteristics,—the huge overhead expenses and the impossibility of separately determining the cost of any particular service of transport, and the use of the same plant for supplying to diverse and independent markets—these make the industry of railway transport a case of joint cost.

Pigou, on the other hand, argues that except in one case, the railways do not exhibit any of the characteristics of joint supply. The fact that the supplementary costs of a business form a very large part of the total costs does not make it a case of joint cost. For in many large establishments, like the iron and steel industry, the overhead costs form a very substantial portion of the total expenses. Secondly, the fact that one service, *i.e.*, transport, is being sold to entirely different, or independent markets,—to the coal merchant and to the copper merchant,—does not in any way prove the existence of a joint product. In his opinion the element of joint cost is present in an industry, where the investment of capital in the production of one of the commodities would invariably and inseparably lead to the production of other commodities. For example, any investment for the production of cotton fibre would automatically involve the production of cotton seeds. That is the most important characteristics of joint

* Taussig. *Principle of Economics*. Vol. II. p. 423.

products. But the railways do not exhibit this feature. The investment of capital in facilitating passenger transport would not invariably lead to the making of provision for freight services. The investment of plants for the transport of coal would not necessarily involve the transport of copper. Only in one case *i.e.*, the running of trains from one station A to another B, and back again from B to A, the element of joint cost is present. For the organisation of railways being what it is, the running of up trains automatically necessitates the return journey. The investment of capital in providing the facilities for the initial journey would involve the investment in the provision of facilities for the return journey. Hence the industry of railway transport does not furnish a case of production at joint cost.

How are Railway rates determined? There are two principles of determining railway rates;—cost of service principle, and value of service principle. Under the *cost of service*

Cost of service principle. service principle, the same charge should be levied for the transport of one ton of goods per mile.

That is the competitive principle. Of course, the rates per mile can be different according as the railways supply other incidental services along with transport, *e.g.*, speed of transit required, (the speedier the train, the higher the rate), according as the goods are easy of handling and securely packed, etc. The *value of service principle* is expressed by the phrase, '*what the traffic will bear*'. It means fixing the rates of the commodities according to their freight-bearing capacity. For example, diamonds, being a highly-valued commodity, can obviously

What the traffic will bear. stand a higher charge than coal, a low-priced commodity. Some classes of goods can stand a higher charge; others only a low charge.

Thus coal, lumber, etc., are low grade goods, and their rates are accordingly low. Textiles, precious metals are high-class articles, and the rates are, therefore, high. The charges are fixed in this way that profits of working the railway can be maximised. Under this principle, there will be a variety of rates, unlike in the first case.

Composite or Rival Demand: *The demand for a commodity is said to be of composite nature when it is demanded in several alternative uses.* For example, steel may be demanded for the construction of a bridge, or of a building, or of machineries of various sorts. These several uses constitute the composite demand for steel. Almost every raw material, every factor of production may be used for the production of various classes of goods. Labour may be demanded for producing either consumer's goods, or producer's goods. Land may be demanded either for building purposes, or for cultivation. Each of these alternate uses is the *rival* of the other for the consumption of that commodity. Together they carry off the whole supply from the market. When different commodities compete for the services

of a particular factor of production, they are sometimes called "*competing cost*" goods.

We have seen that by the operation of the principle of substitution (or the law of equi-marginal returns), a commodity will be distributed among its various uses in such a way that its marginal utility in every use will be equal. Its value will be such as to equal this marginal utility. If, in any use, its marginal utility is greater than its price, a greater supply will be diverted to that use from the other uses. The marginal utility in other uses will therefore rise, while the marginal utility in the first case will fall, until the two will again be equal. Price will then settle at this figure. So the commodities that are in joint demand will be distributed among their various uses in such a way that their marginal utilities are everywhere equal. Their price will then be such as will make marginal utilities equal in every use.

Composite or Rival Supply; *When the demand for a thing can be satisfied from several sources, these sources are said to constitute a composite supply for that thing.* The demand for meat may be satisfied by beef or mutton or ham. The demand for a beverage may be satisfied by tea, coffee and cocoa. Commodities which are *substitutes* for each other are proper examples of composite supply. Similarly, labour and capital, so far as the one can be substituted for the other, may be said to constitute a case of composite supply. Though the different sources of supply thus compete with each other, their total supply must satisfy the total demand for that commodity. These

Competing goods. each other, their total supply must satisfy the total demand for that commodity. These commodities are also known as *competing goods*, as they compete with each other for the satisfaction of a particular want.

Owing to the operation of the principle of substitution, competing supplies will be used up to the point where the marginal utilities, or marginal net products are equal to their prices. The value of each will therefore be equal to the marginal utilities or net products of each. So the price of commodities that are in composite supply will be determined by the cost of producing them and by their marginal utilities, or marginal net products.

Importance of these problems in the theory of value: These four groups of problems, joint demand and supply, composite demand

and supply, touch almost every branch of production. The demand and supply of most things are closely inter-connected with each other. And the value of a thing may depend on the remote influences affecting the value of a quite different thing. The price of petrol, for example, depends on the fare tables of the tramway company. For if the tram-fare is reduced, more people would ride in them in preference to buses. The buses would be making smaller journeys in that case, and the demand for petrol would fall. Hence the price of most commodities are inter-connected with each other.

CHAPTER 20

VALUE UNDER MONOPOLY

Monopoly means the complete absence of substitutes for a commodity. A monopolist can therefore control the supply of a commodity. But he has no control over demand.

Maximum monopoly revenue.

He may place a fixed output on the market, and let the price be fixed by the marginal utility of the commodity to the consumers. Or he may fix the price, and let the output vary with the demand for that commodity. The second method is usually adopted. But whatever the method of control, he will always try to obtain the *maximum net monopoly profit*. It should be noted that the term, 'net monopoly profit' refers to the income of the business that is in excess of what is called the normal earnings of management. Under competitive conditions, the cost of production in the long run includes the normal earnings of management. The difference between the total sale-proceeds and the total costs, (including the normal profit), is called net monopoly revenue. And "the *prima facie* interest of the owner of a monopoly is clearly to adjust the supply to the demand, . . . in such a way as to afford him the greatest possible net revenue."*

Under competitive conditions, value tends in the long run to equal the cost of production. Value cannot rise above the cost, for, owing to the competition of several entrepreneurs anxious to secure extra profit, the supply of that commodity will increase, and the price will fall. Thus under competition, price can neither rise above, nor fall below the marginal cost of production. But under monopoly, the

Cost of production settles value under monopoly in a different way from competition.

cost of production sets only the *minimum limit* below which the price would not fall. The price of a commodity may rise above cost, and it will be to the interest of the monopolist to raise it so as to maximise his monopoly profit. *Cost of production, therefore, affects value under monopoly in a different way.*

Thus the monopolist will always try to fix such a price for his commodity that will give him the maximum revenue under given conditions of demand and supply. But neither a too high price, nor a too low price would bring him the largest profit. A too high price may reduce demand and diminish the volume of sales materially. A too low price may not maximise his monopoly revenue. He must pay regard both to the demand schedule and to the supply schedule of the commodity.

* Marshall—*Principles of Economics*. Pp. 447-48.

If the demand for the commodity is highly elastic, a low price will result in large sales. A smaller profit per unit but a large sale

Monopoly and elasticity of demand. will perhaps give him a better revenue than a larger profit per unit with reduced sales.

He will then fix his price at a low level. If, however, the demand is inelastic, a lower price would not stimulate sales very much. On the other hand, if the supply is restricted, the price would rise very high. Here perhaps a larger profit per unit on a small sale would yield him the maximum profit. He will then fix the price at a high figure.

He must also study the conditions of supply. If the production of the commodity is subject to the law of constant returns, his cost

Monopoly and laws of returns. per unit would remain the same, whatever the volume of the output. He would then

mainly study the conditions of demand, and fix the price accordingly, letting the volume of output change with demand. If its production obeys the law of increasing returns, every increase in the output would lead to a decrease in costs per unit. It will be to his interests, then, to place a large output on the market; for thereby he will reduce his costs. He will especially be induced to do so, if the demand for the commodity is elastic. On the principle of a small profit on a large turnover, he will fix his price at a low figure. Lastly, if the commodity is subject to the law of diminishing returns, it will be his interest to restrict the output, and thereby reduce the cost. He will fix his price at a high figure. But if the demand is very elastic, so that a slight fall in the price would lead to greatly increased consumption, it may become profitable for him to fix a low price. For even though the cost rises as output increases, yet it may not rise so much as to swallow up the extra profit on the very large turnover that would result.

So neither a high price, nor a low price would serve his purpose. He must carefully study the condition of both the demand and the supply of the commodity, and fix his price at a figure that will bring him the maximum profit possible. That price may be either high or low.

Marginal revenue: The general principle which will enable a monopolist to earn the maximum revenue is that his marginal cost of

The monopolist will fix the price at the point where marginal revenue is equal to marginal cost. production should be equal to the marginal revenue. Marginal cost, as we know, means the additional cost of producing an additional unit of the commodity. It is necessary to define the term, "marginal revenue,"—a concept recently introduced into economic theory. Marginal revenue is "the addition to the total revenue produced by selling an additional unit of output."* Suppose a mono-

* Joan Robinson. *Economics of Imperfect Competition*. P. 51.

polist can sell 10 units of a commodity at a price of Rs. 2 per unit and that he can sell 11 units at a price of Re. 1|15/- per unit. The total sale proceeds are Rs. 20 in the first case; and Rs. 21|5/- in the second case. Thus we see that if the monopolist sells one more unit his total receipt will increase only by Re. 1/5/-. This is the *marginal revenue of the additional unit*. We have assumed that the producer will not be able to sell additional amounts at the former price. That is the case with the monopolist. He is already controlling a very large part of the business in any market, and he must lower his price in order to sell more. This price reduction will affect the amount which he receives for all the units he is selling. Thus by selling an additional unit, the monopolist will add to his total revenue a sum equal to the price of this additional unit, minus a reduction in price on all other units he was already selling. That is why his marginal revenue is lower than the price at which the extra unit is sold. So long as what the monopolist adds to his receipts by selling an additional unit is more than what he adds to his costs by producing it, he will increase his profits by doing so. Thus so long as the marginal revenue is greater than the marginal cost, the monopolist will go on increasing his output. But as he produces more, the marginal revenue declines, and the marginal cost rises. When the marginal revenue is equal to the marginal cost, he will obtain the maximum profit. Any further increase in production will mean that the marginal cost will be greater than the additional revenue. He is then making losses on the additional sales. The monopolist revenue will be maximised when the marginal revenue is equal to the marginal cost.

Limits to the power of a Monopolist: Throughout the previous discussion we have assumed that the monopolist has not only full control over the market, but also acts under no restraint. But in real life, there are always some restraints on the activities of the monopolist. A complete monopoly is rare. There are always some checks which explain the fact that a monopolist cannot charge a very high price. There is always the threat of potential competition. The monopolist must always remain on guard against any *new competitors*. Or, the charging of a too high price may encourage the invention and consumption of *substitutes*. The artificial indigo dye has completely supplanted the natural product. Even jute is not safe, for in different countries of the world, researches are being made for discovering a good and equally serviceable substitute for jute. Thirdly, there is the ever present danger of *foreign competition* snatching away the gain from the monopoly. Fourthly, there is the *risk of state interference and state control*. If he charges a very high price, there will be great discontent and clamour among the public, and the government will then be forced to take the matter in hand, either by controlling the monopoly; or by taking it over.

Discriminating Monopoly: A monopolist need not always charge a single price to all his customers. Since he exercises some control over supply, he can charge different prices to different purchasers, or in different markets. In fact, such is generally the case with monopoly. When a monopolist sells the same commodity at different prices, it is said to be a case of discriminating monopoly.

Such price discrimination is not always possible. There is always the possibility of re-sale by the purchaser to whom low price has been charged. Hence in order that the monopolist may be able to charge different prices to different customers, there should be some

Cases when such discrimination is possible.

reason, or reasons for which the consumers who are charged lower prices will not be able to sell the product to others, or there should be an agreement against re-sale. Discrimination in prices is possible under the following two conditions. First, there should be possibility of transferring a unit of the commodity from the low-priced to the high-priced market. Such is the case with the services which are directly supplied by the sellers to the persons of the purchasers. A doctor may charge a lower fee to the poor patients, and a higher fee to the rich patients; the rich patient cannot send a poor man to the doctor to obtain diagnosis at a low fee for him. The transport of different goods on the railways is another case of such non-transferability. The fact that the railway charges a lower rate for the transport of coal than for copper would not lead to the substitution of coal for copper. Secondly, price-discrimination will also be possible when there is no possibility of transferring one unit of demand from the high-priced to the low-priced market. When the markets between which discrimination is being made are distinguished according to the wealth of the customers, such discrimination becomes easy to practise. Thus a rich man would not want to become poor in order to enjoy the benefit of paying lower fees to the doctors. Where there is some possibility of resale, the monopolist makes a contract with the favoured customers, preventing him from doing that.

Discrimination may be either personal, or local, or trade discrimination. *Personal discrimination* occurs when different prices are charged

to the different customers according to the intensity of their desire or according to their wealth. A higher price may be exacted from persons who are more eager to buy. A higher charge would be levied on the rich than on the poor. Firms are known to discriminate against persons living in fashionable quarters. This type of discrimination is not always feasible, for it may arouse violent resentment among the purchasers.

Local discrimination takes place when the monopolist sells at a lower price at one place and charges a higher price at other places. 'Dumping' is the best example of local discrimination.

Local discrimination. The monopolist sells at a foreign centre at a price which is lower than the price exacted from the domestic consumers.

Trade discrimination or use discrimination occurs when the monopolist charges a lower price to one trade than to another. Electric current, for example, may be sold at a low price to industrial concerns, at a higher price for the purpose of domestic cooking, and at

still higher prices for domestic lighting.

When price-discrimination is practised, the value in each market will be determined by the same set of principles as under monopoly. If the monopolist sells in two different markets at different prices, he will charge that price in each market which will make the marginal revenue in that market equal to the marginal cost. The marginal cost will of course be equal, whatever the number of markets. So the marginal revenue will also be the same in each market. But it does not mean that the price will be the same in each market. It will depend on the elasticity of demand in each market. If the demand is elastic for any group of buyers, the monopolist will charge a comparatively low price to that group. But if the demand is inelastic in any particular market, the price will be comparatively high for that group of buyers.

Discriminating monopoly may sometimes bring important benefits to the consumers and the society. It is quite possible that there may

be two groups of buyers, one of which can be made to pay a high price (as their incomes are large, while the other group, having small incomes, will not purchase unless the price is low. When one price is charged, it may be high price. Only the rich buyers purchase the commodity. But the total sales may not be large, and the sale-proceeds may be insufficient to cover the total expenses of production. If a low price is charged so as to tap the poorer buyers, the sales will of course increase. But sale at such a low price may prove unremunerative to the producer. Hence no output will be produced under such circumstances. But if price-discrimination is practised, the producer will charge a high price to the rich buyers and a low price to the poor. The total sale-proceeds may then cover the total expenses of production. This will be especially true if the average costs fall rapidly as a large output is produced, and both the consumers and the society will benefit.

When price-discrimination is practised, the monopolist charges a high price to one group of buyers, and a low price to another group. The first group will certainly lose while the second group will gain. If the buyers to whom a high price is charged belong to the richer

classes and those to whom a low price is charged belong to the poorer classes, we may conclude that the gain to the poorer classes will outweigh the loss to the rich. In this case, the society as a whole will benefit as a result of discriminating monopoly.

Dumping: . It means any price discrimination between different markets. When a monopolist sells some part of his output in a foreign centre at a price which is lower than the price at which he is selling at home, he is said to be 'dumping' into the foreign market. He may or may not sell below his cost of production in the foreign centre. For, owing to his monopoly, he is generally in a position to charge prices which are higher than the cost per unit in the home market. In that case, he may sell at the foreign centre at a price, which, though below the home price, may be above his average cost of production.

A monopolist may dump from a variety of motives. Thus he may do it in order to dispose of a casual overstock of goods which has accumulated as a result of an incorrect estimate of future demand. Or he may do it

Motives for dumping. to develop new trade connections, or to woo the goodwill of the buyers in a new, and as yet untapped market; or to drive competitors out of that market with a view to secure a monopoly. Or his motive may be to reap the economies of large-scale production by working his plants to their maximum capacity. The resulting increased output may, if marketed at home, cause the price to fall very much, especially if the demand is inelastic. It will be to his interest, then, to restrict the amount marketed at home so as to keep prices high, and then to dump the surplus at a foreign centre.

As dumping is injurious to the interest of the producers of the foreign country, it has been prohibited by many countries. Anti-dumping laws have been passed, which aim at levying import duties at a higher rate on the dumped goods. India passed such a legislation in 1933 to cope with Japanese dumping.

CHAPTER 21

VALUE AND IMPERFECT COMPETITION

We have discussed the factors determining the value of a commodity when there is a large number of sellers (*i.e.*, perfect competition), or a single seller (monopoly). But in the markets of real life, there is seldom a large number of sellers, or even a single seller.

In the majority of cases, there is neither a single individual who controls the total supply, nor are there many buyers or sellers so that their individual shares are negligible in relation to the total. Such intermediate cases, where there is neither perfect competition, nor absolute monopoly, have come to be called "imperfect competition."

Under what circumstances can competition become imperfect? In the first place, there may be few suppliers of a commodity, each of whom controls a considerable portion of the supply. Secondly, the market in which the commodity is sold may not be well-organised. Competition in a market will be imperfect, if, because of the existence of the costs of transport, or because of the ignorance of the buyers as to the prices at which different sellers are disposing of their goods, the consumers do not invariably purchase it from the sellers who offer it at the lowest price. Thirdly, any circumstances which, in the minds of consumers, mark off one commodity from another because of real or imaginary differences in the quality or type of the product, will make competition imperfect. Lastly, there might be few buyers of the product, each one of whom purchases a large portion of the supply.

When there are few sellers of a commodity, every one of them will be able to affect the price of the product. Suppose that there are only four sellers, each selling 5,000 units of a commodity. If one of them decides to increase his output by 5 per cent. only, his supply will now be 5,250 units. This will certainly affect the price at which he will be able to sell. The number of sellers may be small either because the state has restricted by laws the number of persons who are entitled to produce (as in railways, electricity, etc.); or because the sources of the supply of the product are small in number (as in the case of petroleum); or because the particular industry requires a very large initial capital outlay on plants, which fact deters more men from entering it. In industries in which the technical economies of large-scale production are very great, any one of the producers can lower his costs by producing more; he can then sell at lower price and drive out some of his rivals. This would give rise to "cut-throat" competition among them, until there are only a few producers left in the market. Each of them will be exercising a substantial control over the supply, and will sell the product at a price higher than the cost of production. Moreover, in order to produce at

a lower cost, they would have to produce a large quantity. This would increase the total output considerably, and thus cause the price to fall so much that they might be unable to cover the costs.*

Even if there are a large number of sellers of a commodity, competition may be imperfect, either because of the ignorance of the buyers; or because the cost of transporting it is high; or because the consumers think that there are differences in the quality or type

of the product supplied by the different sellers. The result of these market imperfections will be that the buyers will not invariably purchase the commodity from that seller who is offering it at the lowest price, e.g., the buyers may not know the prices at which different sellers are selling. If any seller is charging a slightly higher price than others, they may not be aware of it, and so will not transfer their customs to his rivals. Similarly, if the cost of transporting the commodity forms a considerable part of the price, each seller will have a semi-independent market, consisting of the consumers who live near his factory or shop. Such is the case with the small retail dealers. They may charge a slightly higher price without driving away their customers who would be willing to pay this price rather than go to a more distant shop involving more expenses and inconveniences of travelling. Also if one shopkeeper wants to increase his sales materially, he will have to lower his price in order to induce his existing customers to buy more, as also to attract new customers living at some distance from his own shop.

Another important reason for imperfect competition is the existence of real or imaginary differences in the quality of the product sold by each producer. By means of repeated advertisements, or by fixing brands, each producer tries to impress upon buyers this fact that his product is superior in quality to that of others. The superiority in quality may be real or imaginary. But in so far as the buyers are convinced of the existence of these differences, each producer will have a partially independent market for his product. He can charge a slightly higher price. And if he wants to sell more, he must offer his article at a considerably lower price. For such lowering of price may be necessary to induce his old customers to buy more of it, and to attract from his rivals those buyers who prefer the particular quality of the goods of his rivals.

Thus we see that when competition is imperfect, each producer possesses a certain amount of liberty of fixing the price of product.

Under perfect competition, he must accept the price which prevails in the market as a result of the competition of all his rivals. If he charges a slightly lower price, he can attract all the buyers. But under imperfect competition, he can charge

* In the extreme case, there may be two sellers only and a large number of buyers. This typical situation is known as *duopoly*.

a slightly higher price than any of the rivals. His customers would not desert for his rivals, either because they are ignorant of the prices offered by the latter, or because of the cost of transport, or because they prefer the particular quality or taste of his product to that of others. All that will happen is that his customers would buy a somewhat smaller amount than before because of the higher price. Similarly, a small reduction in price may not increase his sales. His old customers may purchase a little more at the lower price. But if he is to attract more buyers, he may have to make a substantial reduction in price to overcome the likings of the customers of his rivals' products for the latter, or to compensate for the costs of transport. Thus each producer will affect the price of his product appreciably by selling more or less of it in the market. In technical language, the elasticity of demand for his product is less than unity.

In imperfect competition, the price will settle at the point, where the marginal cost and the marginal revenue are equal. In order to maximise his profit, each producer will go

In imperfect competition, the marginal revenue is less than the price.

on producing and selling so long as the extra cost of producing the additional unit is less than the addition to the total receipts made

by selling that extra unit. In perfect competition, the marginal revenue is equal to the price of product. But in imperfect competition, the marginal revenue will be less than the price of the product. For we already know that in order to sell more, each producer will have to reduce his price. He will then have to sell all the units (and not only the additional units) at the lower price. So what he actually gains by selling the extra units will be measured by the price that he gets for the extra units *minus* the reduction in price on the units he was selling. Suppose one producer can sell 10 units at Rs. 2 each. If he increases his output by 10 per cent., and wants to sell 11 units, he will have to lower his price to Re. 1-15 as. Tabulating the facts, we find,

Total output	Price	Total receipts
11 units	at Re. 1-15 each	Rs. 21-5-0
10 units	at Rs. 2	Rs. 20
1 unit		Rs. 1-5 as.

If he sells one unit more, he will increase his total receipts by Re. 1-5 as. The marginal revenue of each unit is therefore Re. 1-5 as. The marginal revenue is thus lower than the price of the product. So long as the marginal cost of production is lower than the marginal revenue, the producer will produce and sell more, for he is thereby adding to his receipts. He will stop at the point when the marginal cost is equal to the marginal revenue. But marginal revenue is lower than the price. Hence he will stop producing and selling at some point before the price of his product has fallen to the level of his marginal cost. In perfect competition, the marginal cost is equal to the price and to the marginal revenue (since the marginal revenue is

equal to the price). But in imperfect competition, the marginal cost is equal to the marginal revenue, but not to the price. Output will stop before the marginal cost becomes equal to the price. The output of each seller under imperfect competition will be smaller than that under perfect competition, and the price of the product will be higher than the marginal cost of production.

We have seen that under perfect competition, the number of firms will be so adjusted that in equilibrium, all the firms will be of the optimum size, or the most efficient size. But

In imperfect competition, the firms may not be of the most efficient size.

in imperfect competition, that need not be the case. When competition is perfect, a firm which is of less than optimum size will have a tendency to expand. As it expands,

its costs will fall, while the price that it receives for its additional products remains the same as before. But if there is imperfect competition, such a firm may not expand. It is of course true that if it expands, it will lower the average cost of its product. But it would have to lower its price in order to sell the additional output. It is quite possible that the loss due to sale at lower price may outweigh, or may just balance the gain due to lower average costs per unit. Thus the firm may not have an incentive to expand and to produce a large output. Thus in conditions of imperfect competition, the more efficient firm may fail to drive out the inefficient firms from the market. If the efficient firm has to lower its price considerably in order to overcome the prejudices of the customers of the inefficient firms it might prefer not to drive the latter out of the market. But under perfect competition, the efficient firms can produce and sell more without any considerable reduction in price. As they produce more, the total output will increase and the price would fall so that the inefficient firms would be unable to cover their costs. Thus in imperfect competition, the number of firms in any industry may be larger than that under perfect competition. Each of these firms may be producing an output which is less than the optimum output. The management of each firm may be receiving a reward which is not higher than that received in similar other occupations. For example, there may be a large number of small retail shops, or sweetmeat shops in a city, each of which sells a small output, and is of less than the optimum size. None of them may be earning more than normal profits to be earned elsewhere in similar trades. Yet each shop is monopolistic in the sense that it has a semi-independent market, protected either by the costs of transport, or ignorance, or the good will of the buyers. And it may be profitable for the community if the industry is concentrated on a smaller number of firms.* The statement may appear paradoxical. For it seems to

* But it should be noted that this is not always true. If, for example, the imperfect market and the existence of a large number of firms are due to real differences in the quality or the type of the product, there would be no gain by reducing the number of firms.

imply that the cure of imperfect competition is more imperfect competition. But when the number of firms is reduced each will be of the most efficient size; output per firm will be larger. The average cost and the price per unit will be the lowest possible under the existing conditions of technique and knowledge.

There will be imperfect competition when there are few buyers of a product.* Each of them will then be buying considerable portion

of the supply and will be able to affect the price by increasing or decreasing his purchases.

Monopsony.

Usually in the purchase of finished consumer's goods, such a state of affairs is exceptional. There is normally a large number of buyers of such goods. But in the purchase of the factors of production (*e.g.*, labour or raw materials), the market may be imperfect. For example, in the sugarcane industry, the growers must sell their sugarcane to the nearest sugar factory, for another factory may be situated at a greater distance. Not only will the costs of transport be high, but owing to the longer period of time involved in transporting the cane to the more distant factory, the quality of the cane deteriorates. So they may be forced to sell to the nearest factory whose owner therefore buys in an imperfect market. Similarly, the market for labour may be imperfect, because there are few buyers of labour of a particular grade in a locality. When an employer lowers his wage-rates, many of his employees might not desert him, not knowing that higher wages could be earned in other places. Or they might find it costly to go to other places. The employer would also have to offer considerably higher wages in order to attract more labour from distant localities. Thus the employer will have to raise or lower wages by employing more or less labour. But as he has to offer a higher wage-rate in order to employ more labour, he will have to pay all labourers including the additional labourer at the higher rate. Hence when an employer engages an additional labourer, he adds to his costs not only the wages of that labourer, but also the increase in the wage-rate paid to all other labourers. The additional costs involved in employing one more labourer (the marginal value of labour) is thus higher than the wages paid to that worker (the marginal wage-cost). He will stop employing labour when this additional cost is equal to the extra receipts by the sale of the additional output. Thus the employer will stop employing labour when the wage-rate is still below the marginal net product of labour. In other words, the wage-rate will be below the marginal net product of labour when there is imperfect competition in the labour market. And if competition in the sale of the product is also imperfect, the marginal revenue will be below the price of the product, the wage-rate will be further below the marginal net product of labour.

* This situation has been christened as "*Monopsony*" by Mrs. Robinson. See her book—*Economics of Imperfect Competition*.

SUPPLEMENTARY NOTES ON PERFECT AND IMPERFECT COMPETITION

We have seen that perfect competition assumes the existence of a large number of sellers in the market for a commodity. But the existence of a large number of sellers is also compatible with imperfect competition. The familiar example is that of sweatmeat shops. Though the number of such shops is usually large, competition between them is imperfect on account of the inertia of the buyers, or the costs of transport involved in going to a distant shop, or the differences in the quality of the products.

In the ordinary markets of real life, competition is usually imperfect. Each seller finds that the demand curve for his product is comparatively inelastic. If he has to sell more, he will have to attract more buyers as the existing customers have already bought the maximum amount they would purchase at current prices. He will have to lower his price if he is to induce the existing customers to buy more of the product. If he is to attract new customers to his shop, he must also lower the price either to overcome their prejudices in favour of a particular shop or brand of the commodity, or to compensate them for the extra costs of transport involved in coming to his shop. In any case, he cannot sell the extra output at the same price as before. He must lower the price. As he has to lower his price to sell additional units, the marginal revenue will be less than the price at which he sells. He will sell at the price which equates marginal revenue with marginal cost.

Under perfect competition, the demand curve facing each seller is perfectly elastic. Since he sells a very small part of the total supply of a commodity, his actions will not influence (*i.e.*, raise or lower) the price in any way. If he produces a little more, he can sell the additional units at the same price as before. Hence the marginal revenue is equal to the price. He will also produce up to the point at which his marginal cost is equal to the marginal revenue or the price (since the two are equal).

Thus the distinction between perfect competition and imperfect competition or monopoly is quite clear. Under all conditions, each seller will sell up to the point at which the marginal cost is equal to the marginal revenue. The more nearly competition is perfect, the closer comes the marginal revenue to the price. When competition is perfect, the marginal revenue is equal to the price. Hence it is immaterial whether we say that marginal cost is equal to price or to marginal revenue. On the other hand, the greater the imperfections of a market, or the greater the monopoly power of a seller, the larger will be the difference between marginal revenue and price, or between price and marginal cost.

CHAPTER 22

SPECULATION

What is Speculation? Speculation comprises those activities which are based on the intelligent anticipation of coming events. It means the buying or selling of a commodity with a view to profit from the future changes in prices. When the speculator anticipates any rise of prices in the future, he buys with a view to sell afterwards at a profit. Similarly, when he foresees a fall of prices, he will at once sell with a view to buy in the future at lower prices. He thus anticipates the changes in prices, and hopes to profit by them. It is, however, not his business to hold the goods permanently, or to manufacture them. He will perhaps never touch the goods. He is a dealer, not in goods, but in risks.

The modern productive organisation is inherently risky. In primitive communities, there were practically no risks. Each man

Speculation concentrates the risks of business on shoulders best able to bear them.

produced for himself and consumed what he produced. But with the progress of society, production has become more and more roundabout, and has to be carried on in anticipation of demand. The risks of business have

greatly increased. Long before the final output can be placed on the market the demand may change for the worse; or there may be such a change in the supply of the commodity as will falsify the anticipations. At every step, therefore in the productive process, great risks have to be borne. Speculation concentrates these risks and causes them to be borne by those best able to bear them. In this way, speculation renders very useful services to the society.

Speculation is different from gambling. Gamblers are persons who try to make a profit by assuming *unnecessary* risks. Often they

Speculation and gambling.

themselves deliberately create the risks which they bear. For example, it is of course uncertain whether England or Australia will win the

"test." There is uncertainty, but none need bear it. The assumption of such risks is entirely unnecessary for carrying on productive activities. But the gamblers will often gamble on the results of test matches. The gamblers often bet on the fact, whether there have been two inches or three inches of rain on a particular day. There is practically no risk here; it is only created by the gambler to gain or lose money. A speculator, on the other hand, assumes *necessary* and *natural* risks. For example, the price of jute may rise or fall six months hence. There is a risk which must be assumed by somebody if production is to run a smooth course. Lastly, the gambler does

not in any way contribute to production. Speculation, on the other hand, performs a very necessary economic function.

Conditions favourable to the growth of a speculative market: Speculators deal either in commodities, or in securities. Strictly speaking, anything whose future is uncertain may become the object of speculative activities. But there are certain special circumstances, which favour the growth of a speculative market. *First*, the commodity must be a staple product with a large and regular demand. *Secondly*, it can be standardised, *i.e.*, suitably graded according to quality. *Thirdly*, it must be properly cognisable, *i.e.*, capable of ready definition and measurement. Many commodities satisfy these tests. The stocks and securities in particular, exhibit these characteristics in a pre-eminent degree. And this explains the almost universal organisation of stock exchanges. There are also other special reasons why the commodities become the object of speculative activities. *Fourthly*, when the supply of a commodity is very uncertain, and beyond human control; and also when the supply comes into the market, not regularly throughout the year, but irregularly during a particular season, it is apt to show great price-fluctuations. *Lastly*, the demand for these commodities, on the other hand, is mostly regular and continuous. The important raw materials of industry, like cotton, wool etc., and food-stuffs like wheat, are examples in point. Their supply is beyond human control. Man may sow or plant as many acres as he likes, but the actual amount of crops will be determined by the weather conditions. Not only that, but the whole supply of such commodities is placed on the market immediately after harvest, while the demand for them is, more or less, regular and continuous. Hence their prices are likely to fluctuate extremely. A short wheat crop would drive the price to undreamt-of heights; while a bumper crop will cause the price to fall very much. In order to lessen the risks of such price-fluctuation, the various produce exchanges have been organised.

Organisation of Speculative market: A stock exchange is a place where shares and securities are bought and sold. The

Organisation of stock exchanges. shares satisfy all the conditions required for a perfect market. They are easily cognisable, and one share is exactly like another. A

stock exchange consists of jobbers and brokers. The jobbers are the real speculators in stocks, and they are always ready to quote a buying or a selling price. The brokers come into contact with the public who want to sell or purchase shares and furnish them with quotations of selling and purchasing prices from jobbers. The brokers are really middlemen who earn commissions, the real speculator being the jobbers. The chief transactions on the exchanges may be shortly described as follows:

If the speculator thinks that the price is high and is going to fall, he will 'sell short' *i.e.*, he will contract to deliver at a future time goods which are not yet in his possession. He may make profits out

of this transaction in two ways. Either he will purchase the goods he had contracted to deliver on that future date at the lower price, or he will make a "covering" contract or a 'hedging' contract just now; that is, he will arrange with some other dealer to purchase at the same time the goods at a somewhat lower price than that at which he has contracted to supply. In the opposite situation, that is, when the price is low in the estimation of the speculator, but he thinks it will rise in the near future, he will 'buy long', i.e., he will purchase a larger quantity of goods than at present required and when the goods are delivered, he will sell at a profit. He will achieve the same result if he makes a 'realizing' or 'liquidating' sale of the goods at a higher price to be delivered at the same time. The speculators who contract for 'selling short' are known as 'bears' because by their very operations they help to pull down the price; and the speculators who contract for 'buying long' are described as 'bulls,' because by their speculation they pull up the prices.

When a substantial period of time intervenes between the present contract and the future delivery, the transaction is known as a 'future'.

Organisation of 'Futures' market or Produce exchanges.

Dealings in futures seldom lead to actual delivery of the produce. What really happens is that by bringing together those who actually wish to receive and those who wish actually

to deliver the produce, the transaction is completed. Thus we find two classes of buyers in futures. First come those manufacturers who buy with a view to their future needs for particular grades of an article. When the time comes for the fulfilment of the contract, they buy the grade which they require and sell the grade which they acquired by the future contract. The loss in one transaction, if any, is offset by the gains in the other. What remains to them is not speculative profit, but the profits of manufacture. The other group of buyers consists of those who do not want the produce to which the futures refer, but but are trying to make a profit out of buying at a low price and selling at higher prices. They pocket the difference in prices and make speculative profits.

Economic Functions of Speculation: The essential services that speculation renders to the economic organisation are the assumption, and to some extent, the reduction of risks, and the lessening of price fluctuations. One of the essential characteristics of the modern productive organisation is that it is carried on long before in anticipation of demand. By the time cotton crops are sown and harvested, cotton yarns spun and piece-goods woven, the demand may fall or change in such a way as to spell disaster. The manufacturer, who has bought his raw materials, and who is expecting a handsome profit, might see his profit turned into loss owing to a fall in the price of the raw materials. All types of productive activity, therefore, involve the bearing of much risk and uncertainty. It is the special function of the speculators to assume these risks, and thus to relieve the manu-

facturers of a great amount of uncertainty-bearing. The manufacturer who has bought a wheat future, may safely concentrate his energies on producing flour. Though the price of wheat may fall by the time he has turned out the finished product, his loss on this account will be made up by his corresponding gains from the futures. Moreover, when a great uncertainty prevails, the productive activity is curtailed. The speculator, by assuming the uncertainties of the economic organisation, helps to increase production.

The fundamental effect of speculation is to promote the establishment of equilibrium between supply and demand. When the speculators anticipate a shortage of supply in the future, and hence a rise in prices, they buy at once. Prices rise at once as a result of their buying. Higher prices check consumption. Present consumption is curtailed, and some supply is withheld from the present market. As this amount is added afterwards to the future supply, the rise in prices will be less in consequence. Similarly, when the speculator expects the price to fall, he will sell at once. Present prices fall, and consumption is stimulated, so that afterwards, the fall in price will not be severe. In this way, speculation prevents sudden fluctuations of prices, and smooths the course of price movements. The passing and fitful events are not allowed to exercise an undue influence on the price; and value is determined by the more fundamental long-period causes. In this way it also helps to secure the proper adjustment of demand and supply. The daily market price tends to conform to the seasonal market price and the seasonal supply price becomes such as to dispose of the whole seasonal supply. As speculation lessens price fluctuations, it promotes the smooth course of exchange and consumption. The consumers get their commodities at a steady price; hence consumption becomes steadier. It effectively checks the evils of price fluctuations.

Besides freeing businessmen from the assumption of risks as regards price movements, speculation helps production in another way. Any future demand for an article is foreseen by the speculator and he begins to buy it at once. This raises its prices and serves as a guide to producers who then begin to manufacture more of it. The influence of speculation determines production even in the case of articles, like food grains, which take a long time to be produced.

Similarly, investment of capital in commerce and securities is guided by speculation. Stock-exchange speculation promotes investment. Speculators subject all undertakings to expert investigations which are quite impossible for the small investor. A steady price on the stock-exchange implies a safe and sound condition of a concern. Whenever any industry becomes profitable, speculators will long before anticipate that and offer high prices for the stocks of such an

✓ They promote the true equilibrium of demand and supply.

✓ Stock exchanges promote investment.

industry. Thus the price list of securities is a reasonable guide for investors under ordinary conditions.

Dealings in produce exchanges confer important benefits upon actual producers of an article. Suppose for example, a British miller has ordered a certain quantity of wheat from India at the price quoted in the wheat market.

He at once sells in the home market an exact quantity of wheat to be delivered at the time when he expects his wheat to reach him. If the price of wheat falls in the meantime, the miller has then got to sell flour made of dear wheat at a lower price. He undergoes loss by the sale of such flour. But when the time comes for delivering the wheat future, he buys the cheap wheat in the market and delivers it to the merchant with whom he made contracts at the higher rate. Thus the previous loss is offset by the gain on the future transaction.

Perfect speculation tends to destroy itself. If the speculators are perfectly wise, they will make a correct forecast of the changes of prices. And as a result of their action, these price-fluctuations will be eliminated altogether. So in the end, prices would cease to fluctuate. When prices do not change there would be no necessity for speculation.

Illegitimate Speculation: All these benefits arising from speculation presuppose expert knowledge and honest dealings. But there are outsiders and manipulative speculators. Once a commodity is standardized, anybody can deal in it. The public, lured by the profits of the speculators, begin to dabble in the speculative market; and they are losers as a class as they do not possess the knowledge and shrewdness of the expert speculator. Another class of illegitimate speculators is the manipulative speculators. They create a false opinion as to the general conditions of demand and supply. A clique for example, will lead the market to believe that they are working for a fall and will make a great show of selling their goods, while they are really buying quietly by indirect means much larger amounts than they are selling. Ultimately they may control the whole or most part of the supply of a commodity and can then dictate monopoly prices. Such speculations are instances of corners. Instances of successful corners are, however, very rare.

If there is a dabbling by the outsiders fluctuations in prices may become more violent. They are prompted by the latest rumours and become panic-stricken on the slightest cause of fear; they sell their commodities and securities when the expert speculators would hold them; they buy commodities and stocks when the expert speculators would sell them. By their very operations the price fluctuations become more violent than before.

This gambling habit of the public involves them in severe economic losses. Now it may be argued that what is lost by the one is gained by the other. Therefore, there is no economic loss. But the argu-

ment is wrong. The mistake in the argument will be clear if we

take an illustration. Suppose two persons A and B begin to gamble with 500 rupees each; suppose further that A loses 100 rupees, while B gains the same sum. The marginal utility of money is not the same when a person has 500 rupees and again when he has 400 rupees. The marginal utility of the five-hundredth rupee is certainly less than the marginal utility of the four-hundredth rupee. Assuming that the marginal utilities of money are equal to A and B, the additional utility derived from each rupee gained by B is less than the loss of marginal utility due to the loss of each rupee by A. Thus there is a clear economic loss from gambling.

Regulation of Speculation: The evils of illegitimate speculation set forth in the previous section lead us to the discussion of the question of the regulation of speculation. On the necessity of such regulation, the authorities in every country are unanimous. But the remedies suggested are inadequate. One remedy against speculative gambling is legislation. But there are loop-holes in all legislation and the ingenuity of the lawyers is there to help the speculators. Already laws in many countries make void any transactions which are sales in form merely. Most gambling often takes place in connection with future deliveries. If dealings in futures are prohibited this kind of gambling may be checked; but the advantages of dealing in futures are too important to be brushed away lightly. So "the most effective remedy", says Taussig, "would be a better moral standard for all industry and an arousal of public opinion against all kinds of gambling".

The evils of stock exchange speculation can be remedied through a revision and better enforcement of the rules made by the exchanges for themselves. If the industries can lessen price fluctuations through greater regularity of production, there will be less speculation. Public opinion can taboo the outside speculators. All these are indirect remedies and take a long time to materialise; but there is no direct sovereign remedy against speculation.

CHAPTER 23

OLDER THEORIES OF VALUE

Labour theory of Value: The labour theory of value is perhaps the oldest theory of value. Its chief exponents have been Adam Smith, Ricardo and Karl Marx. In this section, we shall be treating of the theory of the first two economists while the next section will be devoted to an examination of the Marxian theory of value.

Briefly the theory states that the value of a commodity in the long run is determined by the amount of labour embodied in it. Smith and Ricardo did not deny that a thing must possess value-in-use, *i.e.*, utility. But utility was not the cause of value. Relative values differed, not with relative utilities, but with relative amounts of labour that each embodied. And Adam Smith clinched the issue by pointing out the paradox that things with greatest value-in-use, (*e.g.*, *water*) had often the least value-in-exchange. It should be noted here that Smith was not a rigid upholder of this theory. In his opinion such a theory was only true in primitive times. But even then he admitted that highly 'esteemed' labour would command a higher value. But in modern times after 'stocks' and land had been appropriated such a theory was non-applicable. In its place, he substituted a form of cost of production theory. Ricardo, however, believed that even in modern times, value was determined by the relative amounts of labour.

The theory is unsatisfactory on many grounds. *First*, what is exactly meant by 'labour'? Labour may be of many grades, of many kinds—manual, mental, skilled, and unskilled. How can we compare skilled with unskilled labour? If the different kinds of labour cannot be reduced to a common measure, how can we compare relative amounts of labour and determine their relative values? Moreover, the amounts of labour vary with the efficiency, and intensity of work. How are we to find a common measure between them? *Secondly*, suppose two things, a pair of shoes and a piece of cloth are sold at the same price, are we to say that they embodied equal amounts of labour? Certainly not. *Thirdly*, what about the misdirected labour? Labour devoted to the production of things that cannot be sold? The labour of cutting a suit, which, when finished does not fit, has nothing to do with its value; in fact, its value is nil. *Fourthly*, according to the theory, once labour produces a commodity, its value can not change, being fixed already by the amounts of labour used up. But in fact, values are constantly changing. Hence labour cannot be the cause of value. *Lastly*, the theory fails to explain the value of things, which are non-reproducible, like great works of art, etc. The truth is that labour is only *one* of the elements, which affect

the supply, and therefore the value of a commodity. Other things being equal, a thing which required more labour to produce may be higher in price than the thing which required less labour. That is all. But in real life, other things are *never* equal, and it is better that the theory should be finally discarded.

Marxian theory of Value: Karl Marx was the founder of the modern socialist movement, and he used the labour theory of value to assail the capitalist system. He studied at the British museum, and so was particularly influenced by the British economists, especially by Ricardo.

According to him, "the value of a commodity is determined by the quantity of labour expended during its production." He did not

Value is determined by the amount of 'socially necessary labour'.

exactly deny that the thing must also possess utility, but he met the situation by citing Adam Smith's paradox about the disparity between value-in-use and value-in-exchange.

Value, according to him, was determined not only by labour, but belonged wholly to labour. But a part of the value was always confiscated by the capitalist as interest, rent, profit, etc. Hence Marx's furious denunciations against the capitalist system. While the purpose for which he used his theory does not concern us, yet it may be pointed out that he completely ignored the important contributions to value made by the labour of organisers and inventors.

His theory too suffers from all the defects of the labour theory. Is there a common measure among the different kinds of labour which we can use as a standard of value? After considering the claims of "labour time", of 'unskilled simple labour', he finally selected 'simple abstract, human labour', or 'socially necessary labour' as his standard. But that does not carry us anywhere. What is socially necessary labour? To determine it, we must go to the market and see how much of other commodities can be exchanged for it. But that is to admit the influence of utility. Can we say that because a weaver is paid twice as much as a coal miner, the latter's labour, as regards social necessity, is in the ratio of 1 to 2 with the former? The term, 'socially necessary', thus begs the whole question. Marx, however, boldly faced the problem of misdirected labour. Such labour, he declared, would get no value at all; a perfectly justifiable statement, but one of the justness of which he would find it extremely difficult to convince the workman on the pay day. These difficulties have thus led to the shelving of the theory even by the socialists.

Cost of Production Theory: The theory states that value is *determined by the cost of producing the thing.* It is different from the labour theory in that it reckons other elements, besides labour, in the cost of producing a thing; e.g., interest and ordinary profit. In course of time, the labour theory of value was found to be inadequate. In trying to re-cast the theory, Senior added to the labour-cost the remuneration for another factor of production, which he called

'abstinence'. Mill later added 'risk' as a cost element, and at his hands, the cost of production theory reached its full development.

Value, according to Mill, was determined in the long run, by the cost of production, which included the wages of labour, the interest on capital and the ordinary profit of entrepreneurs. Market values oscillated above and below this figure. If, at any time, the price rose above cost of producing one unit, there would be a tendency towards increased production, increased supply, and finally falling price, until it would again become equal to the cost of production. Conversely, if the price fell below this figure, less would be produced, and the price would again rise. Thus competition would always keep the price equal to the cost of production in the long run. Rent, of course, was not a part of cost, since it was considered to be a differential surplus.

This theory is also inadequate to explain value. *First*, it ignores the important influence of utility. Cost of production, by itself, cannot

It ignores the influence of utility. give rise to value; there must be utility before there can be value. If a man incurred

a heavy cost in producing a thing which was not wanted, he would not be entitled to get any remuneration. "A country in which the cost of production invariably fixed the value of a thing would be a businessman's paradise, because he would never be punished for his mistakes; we ignore half of our problem if we take utility for granted".* *Secondly*, the theory fails to explain the value of non-reproducible things. *Thirdly*, cost of production of a thing, once produced, will remain fixed and unchangeable. But values fluctuate constantly. Values may rise or fall, irrespective of changes in the cost of production. Hence the theory does not furnish a satisfactory explanation of value. *Fourthly*, the theory fails to explain the value of joint products, like wool and mutton, where the separate cost of production cannot be determined accurately. *Fifthly*, the expression,

'cost of production' which equals value may be only the prime costs. *Lastly*, cost of production is itself dependent on value. The

Cost is itself determined by value. higher the price, the greater the supply; the greater the supply, the higher or lower will be the cost per unit. Cost, value, and demand,—they are mutually related to each other. Hence it is wrong to say that cost of production determines value.

Utility Theory: The theory states that value is determined by the utility of the commodity. Things which possess greater utility will command a higher value in exchange for the things which possess lower utility. A refinement of this theory is the *marginal utility theory*. Value, according to this view, is determined not by utility, but by the marginal utility; i.e., the utility of that unit which the consumer

* Clay. *Economics for the General Reader*. P. 268.

is just induced to buy. Jevons in England was a great exponent of the theory.

Mere utility cannot give rise to value. There must be also some limitation in supply. Otherwise, in spite of usefulness, nobody would pay anything for that commodity. Similarly,

Utility is also itself things which possess the greatest utility, *i.e.*, dependent on value. usefulness, like water, possess in many cases

the lowest value. The marginal utility theory does not of course suffer from these defects. The mistakes of these theorists lay in the fact that they made utility, or marginal utility as the cause of value. But marginal utility does not determine value. It is also determined by value. The greater the supply, the less the marginal utility. But the supply of a commodity depends on its price. The truth is that neither value, nor supply, nor demand can be called the cause of the others. Each influences the others, and is, in its turn, influenced by them.

The theory is right in so far as it bases value on human wants. The concept of marginal utility has also provided an important tool in economic theory, in that it skillfully blends two important influences on value,—utility and scarcity. But the theory is wrong in so far as it says that marginal utility governs value. It does not. Value only *measures* marginal utility. That is all.

CHAPTER 24

THE NATURE OF DISTRIBUTION

What is Distribution? The economics of distribution deals with the division of the total product of the country among the various factors of production. The combined activities of labour, capital and organisation, acting upon the natural resources of the country, produce in every year a certain amount of goods and services. This is then distributed among the factors as their remuneration. Hence there are as many shares as there are factors of production. The share of labour is called, 'wages'; the share of capital 'interest'; the share of land 'rent'; and the share of organisation is called 'profit'. It should be noted that the economics of distribution does not discuss the problem of *personal* distribution, *i.e.*, how the income of each individual is determined. But it deals with *functional* distribution, *i.e.*, how the share of each factor is determined.

Two main questions are involved in the theory of distribution. *What* is to be distributed? And *how* is it to be distributed? The first deals with the nature and the amount of national income, or national dividend. The second question is concerned with the theory of marginal productivity, the central principle of the theory of distribution.

What is Distribution? National Dividend: The amount that is distributed during a given period among the factors of production consists of the aggregate value of all

Definition of national dividend. goods produced and all services consumed during that period, after making proper allowance for the wear and tear and depreciation of the capital-goods of the country. This national dividend may be conceived either in a broad or a narrow sense. In a broad sense, it includes the total flow of goods and services that is produced during a year. In the narrow sense, it includes only those goods and services that are exchanged against money. "National dividend is that part of the objective income of the community, including of course income derived from abroad, which can be measured in money."* A similar definition has also been given by Lord Stamp.

Analysing the second definition, we see that we must count only those things and services, which are objective and which are exchanged for money. Thus the services which a person renders to himself, and those which he performs gratuitously for members of his family or friends; the benefits which he derives using his own personal goods, or public property such as toll-free bridges, should not be regarded

Paradoxes and limitations of this definition.

* Pigou. *Economics of Welfare*.

as parts of the national dividend. It should be noted that this type of definition often gives rise to paradoxes. It raises a rigid wall of separation between the things that are exchanged for money and the things that are not. But these do not differ in kind. For example, Prof. Pigou mentions a paradox. If a man marries his housewife, the national dividend is thereby diminished. For the housewife, before her marriage, was rendering some services for which she was paid wages and which, therefore, were counted in the national dividend. But after marriage, she is rendering the same services, but she is not paid any wages. Hence though the same amount of services is still rendered, the national dividend has diminished, as the services are no longer exchanged for money. But in spite of these paradoxes and limitations, this definition of national dividend in terms of money is generally accepted by economists.

The national dividend may be measured in two ways. It may be said to consist of the value of those goods and services that are *produced* during the year; or of the values of those goods and services that ultimately enter into consumption in a particular year. Marshall defines the national dividend in the first way. "The labour and capital of the country, acting on its natural resources, produce annually a certain *net* aggregate of commodities, material and immaterial, including services of all kinds." From the annual gross produce we must deduct a certain amount to provide for the depreciation and the wearing out of plants and other capital goods, while the net income from foreign investments must be added. This is, according to Marshall, the true national dividend during a year. On the other hand, Marshall's method, according to Fisher, includes much that should not be included. The true national income is that part of the net product of a year, that is directly *consumed* (and not produced) during a year. An example would make the difference clear. Suppose a machinery has been produced during a year. According to Marshall, the total value of the machinery, minus some allowance for depreciation, should be counted in the national dividend of that year. But, according to Fisher, not the whole value of the machinery, but that part of it which is actually consumed in that year should be counted. Strictly speaking, Fisher's definition is more logical and accurate. But his definition would give rise to many difficulties in the actual counting of national dividend. For it is easier to prepare an inventory of goods and services that are produced in course of a year than to prepare a list of goods and services that are actually consumed. Hence the Marshallian definition, in spite of its theoretical inaccuracy, provides a better tool.

There are three different methods by which statisticians have measured the national dividend. The first method is to determine the

Different ways of measuring the dividend.

value of all produce, industrial or agricultural, raised during the year, after making some allowance for the depreciation of the assets.

The second method is to add together the incomes of those persons who

pay income-tax and of those who do not pay the tax. The third method is to undertake an occupational census, by which the earnings of all persons employed in different productive activities of the country are determined. The aggregate money-incomes thus derived ought to be equal to national dividend, provided we are careful in not counting in the money-incomes the value of gifts against which no services are rendered; interest on the internal unproductive debts; old age pensions; incomes earned by fraud, deception, etc. Further, care should be taken to avoid the pitfalls of double counting, *i.e.*, we should not count one thing twice. The difficulties that this question gives rise to are often perplexing. Lord Stamp mentioned a case. Suppose a barrister earns an income of Rs. 20,000, with the

help of his clerk, whom he pays Rs. 1,200 per year. Are we to count only Rs. 20,000 in the national income, or Rs. 21,200? If

we do the latter, the question may arise that we have doubly counted the same services and thereby inflated national dividend unduly. For, if we assume that the barrister earned Rs. 20,000 with the help of the services of his clerk, then the services of his clerk have already been evaluated in the barrister's income of Rs. 20,000. To count again the clerk's income would be double counting. Clearly, therefore, we ought to reckon only Rs. 20,000. But it is really very difficult to determine whether the clerk's services were additional to the services of the barrister, and hence should be counted separately.

Such is the concept of national dividend, or national income. It is at once the net product of, and the sole source of payment for the

factors of production. Cannan would completely reject the idea of national dividend. Criticism of the concept. In his opinion, "the incomes of the inhabit-

ants of one country often depend very largely on production in America and demand in China.* In order to avoid such complications, we may try to determine the national incomes of the different countries of the world as a whole. But that is clearly impracticable. It is difficult to understand why because we are sending "buttons or bicycles in exchange for ivory or rubber" with Central Africans, we should not be able to know our incomes? Everyone of us produces for a distant market. But does that prevent us from knowing our incomes? Of course this fact adds to the complications of counting our income. But it would be too pedantic to reject the fruitful idea of national dividend only because much of our incomes is derived from foreign trade.

How is it distributed? The theory of marginal productivity: The national dividend is distributed among the different factors of production as their remuneration. The process by which the share of each is determined is settled by the application of the principles of the theory of value. Just as the value of a commodity tends to equal

* Cannan. *A Review of Economic Theory*. P. 331.

its marginal utility, so the value of each factor tends to equal its marginal productivity to the employers. The theory of marginal productivity is therefore the central doctrine of distribution.

Just as the marginal utility of a commodity to an individual is the utility of that unit which he is just induced to buy at the current

How marginal product- price, so the marginal productivity of a factor
ivity is determined? is the productivity of that unit of the factor

which the employer finds it just worth employing at its existing price. It is measured by the additional product which accrues to the entrepreneur when he employs an additional unit of that factor, the supply of all other factors remaining constant. The marginal net product is thus the addition to, or the subtraction from the total output of a firm when a very small unit is added to, or withdrawn from the supply of a factor, provided the organisation of the firm is properly adjusted to the changed supply, *i.e.*, it is organised in the most economical manner when the supply of a factor is (say) 100 units, and also when the supply is 99 units or 101 units. In this way, by adding to, or taking away one unit from the total supply of that factor, while keeping the supply of other factors constant, we can determine the marginal net product of each factor. And as in theory at least, all units of a factor are interchangeable, the productivity of this additional unit settles the prevailing rate that is paid to all other units of that factor.

Just as the concept of marginal utility follows from the law of diminishing utility, so the concept of marginal productivity follows from the law of diminishing returns as applied to the organisation of a business. As more and more units of a factor are applied in a business, the supplies of other co-operating factors remaining constant, output may increase for the time being more than proportionately. But soon a point will be reached when the addition of a further unit of that factor will increase the output less than proportionately. If we go on adding more and more men to a factory, a time will come when the addition of more men will not increase the product proportionately. An employer will go on adding more and more units of a factor to his business; the additional product due to that factor goes on diminishing. A time will come when the productivity of an additional unit just balances the price that he has to pay for it. This unit is the marginal unit of that factor, and its productivity settles the remuneration of all units of that factor. He will not employ any further unit, for the productivity of this unit will be less than the price that he has to pay for it.

In a freely competitive market, where many firms are producing, we can assume that the influence of a particular firm on the prices

The principle of substitution, either of the product, or of the factors of production will be so small as to be negligible.

The particular employer must accept the market price for this product. So also the price that he will have to

pay for any unit of the factors is fixed for him by the rate that the factors might have earned when employed by another entrepreneur, or in another industry. With the prices of the factors thus given, the employer will always try to combine the various factors in such a way that his costs of production are the minimum possible. He will continuously vary the quantities of the factors that he uses, until the price that he has to pay for each unit of them will just be equal to their marginal net products to him. If he thinks that by employing more labourers, he can obtain an output that is greater than their wages, he will employ the labourers. He will employ additional capital if he thinks that the addition to the total product is more than the expenditure on account of interest. Similarly, he will use more of labour, and less of capital and land, or more of capital and less of land and labour, or more of land and less of labour and capital, if he thinks that thereby he will minimise his costs. Thus he is constantly giving effect to the principle of substitution. He is substituting and combining land, labour and capital in such a way that the increase of the product due to the employment of the additional units of any factor will be just equal to the price that he has to pay for them. If the net product of any factor is less, or more than the price, he will be under an inducement either to contract or to expand the use of that factor. Hence in order that equilibrium may exist in the size and the methods of production of a firm, the necessary condition is that the value of each factor of production will be equal to its marginal net product. The share of each factor will, therefore, in equilibrium, be determined by its marginal productivity.

This is, in short, the theory of marginal productivity. As we have seen, it rests upon the following assumptions: *First*, it assumes that all units of a factor are homogeneous, so that we can substitute the various units indiscriminately.

Secondly, the different factors, though co-operating with each other in the production of a commodity, can yet be substituted for each other in the sense that at the margin, we can use either more land and labour, or more labour and less land and capital. Hence, *thirdly*, it presupposes the possibility of a continuous variation of the use of the factors. *Lastly*, it is based on the law of diminishing returns as applied to the organisation of a business.

The theory can be applied to explain rent, interest, wages and profits. If an entrepreneur cultivates more and more plots of land

The theory as applied to explain rent, interest, wages and profits.

with a fixed amount of labour and capital, the total produce will increase at a diminishing rate. The rent of a fixed plot of land, assuming all plots to be equally fertile will tend to equal the marginal productivity of that plot. The marginal net product of capital is what the whole industry produces when one unit is added, minus what it can produce when that unit is taken away,

provided in both cases, the supply of other factors remains constant, and provided the industry is organised in both cases in the most appropriate way. The interest on capital will tend to equal this net product. Wages will tend to equal the extra product that will result from the employment of an additional labourer, other things remaining the same. *Lastly*, profits, or the shares of an entrepreneur are the amount which the community is able to produce with his help over and above what it could produce without his help.

The theory has been subjected to a great deal of criticism. A most common criticism is that advanced by Taussig, and also by Davenport and Adrianee. In their opinion, every product is a joint product, and cannot be separately ascribed to either capital, or labour, or land. It is impossible to isolate

There is a joint product, but no separate product of any factor.

and measure the 'specific' product of each of the factors. As Carver puts it, "you cannot unscramble the eggs." The product is the inextricable mixture of the different factors. But this misconceives the use of the marginal productivity theory. When we say that the marginal net product of a factor is this, we do not mean thereby that this net product is due solely to that factor. We merely *impute* that product to that factor. There is no other way, except this, of measuring the services of factors used jointly in production. It is merely a case of joint demand, and the same situation also appears in the case of consumer's goods like butter and bread. There is no more special difficulty about separating the productivity of labour, or capital on the ground that it is always associated with other factors, than there is about determining the utility of butter, because it is always demanded with other goods.

Secondly, another criticism of the theory has been stated by Wieser, and the same attack has been made by Hobson. The marginal net product cannot afford a good measure of the services of a factor, because when one unit is withdrawn from production, that would so disorganise the whole business that productivity of other agents will be considerably diminished. Hence the amount by which the total output will diminish when the marginal unit is withdrawn will be much larger than what can be imputed to that unit alone. Hence follows the paradox that the sum of the marginal net products of all the factors, as determined separately according to the theory, will be greater than the actual total product,—an obvious absurdity. The error in this line of reasoning lies in fixing attention upon a small business organisation and large units of factors. But generally the actual size of the business is so large, and the ordinary units of the factors are so small that the withdrawal of one unit of a factor will not affect the productivity of other factors appreciably. Theoretically of course, the units must be infinitesimally small. But the error, or the difficulty resulting from this belongs to what Marshall calls, "the second order of the smalls," and hence may be neglected.

Thirdly, the opposite criticism is that answered by Wicksteed. The sum of the marginal net products of all factors will be *less* than the total product, thus leaving a surplus. Wicksteed disproves this criticism by assuming that the proportional increase of all the factors will increase the quantity of the product in the same proportion. That is, he assumes, constant returns; but this assumption is not always valid, and introduces certain difficulties.

Fourthly, another serious difficulty with regard to the measurement of the marginal net product is that the marginal productivity of a unit of a factor to a particular firm will be considerably less than that to the industry as a whole when there are economies of large-scale production. For, a greater division of labour proceeds as an additional unit is made available to the industry. When the increase has worked its full effect, that is, when the whole organisation of the industry has been adjusted to the new supply, it is quite possible that the marginal productivity of a factor to individual firms is less than that to the industry as a whole. Thus so far as production takes place under increasing returns, the determination of the marginal net product is surrounded by a margin of doubt.*

Fifthly, Hobson denies the possibility of variation of the use of the factors. According to him, the actual technical conditions of the business, and the existence of fixed capital, like machinery, etc., dictate the proportions in which the factors are to be used. There are many machines which will require the services of only one labourer. The employment of two labourers will be useless under such circumstances. The combination of the different factors is thus predetermined by the technique of the business, just as the proportions of the ingredients for a cake are rigidly fixed by the recipe. Hence unless we can vary the use of a factor, we cannot determine its net product. But in general, there is an infinite possibility of varying the proportions in which the different factors can be combined. Progress in business organisation is really possible only because such variations are possible. Moreover, if we take a long period, the existence of fixed capital introduces no serious difficulty regarding the possibility of variation of the use of the factors. For in the long period, there are no supplementary costs, and the machineries have to be either renewed, or replaced by other factors. Hence it is not appropriate to deny the possibilities of variation.

Lastly, the serious criticism of the theory is that it takes the supply of the factors as given, and then explains why they are demanded.

The factors are demanded because of their marginal contribution to the employers. But demand alone cannot explain the value of anything, much less of a factor of production.

The supply of the factors is not fixed, but is elastic to a considerable

* Joan Robinson. *Economics of Imperfect Competition*. P. 327. Also Pigou. *Economics of Welfare*. Hicks. *The Theory of Wages*. Appendix.

degree, being dependent, for example, on the remuneration paid to them. We cannot assume that the rate of interest will not influence the supply of capital, and thus affect the net product of capital. The marginal net product is thus a variable quantity depending on a great number of factors; and for this reason Marshall admits that "the doctrine throws into clear light the action of *one* of the causes that govern wages."

The marginal productivity is thus an important influence determining the remuneration of the factors of production. It should be

In actual life there may be divergence between net product and value. noted that the theory only states what the employers can pay to the factors. But in actual life, there is no perfect competition as is assumed in the theory. There is a continuous friction in the economic system which prevents the proper adjustment between interest, rent, wages and the marginal net products. But a continued mal-adjustment will set up tendencies towards removing the discrepancy.

Lastly, the theory of distribution does not carry with it any ethical justification. The marginal productivity theory seems to imply that because the factors get what they produce, the present distribution of income is just. But it should not be forgotten that the market-value which tends to equal the marginal net product bears no necessary relation with the social service. Hence the theory should not be applied to justify the present distributive system.

CHAPTER 25

RENT

The meaning of Rent: The ordinary use of the term "rent" means any periodic payment for the hire of anything, such as carriages, pianos, buildings, etc. This is not the sense in which the term is used in Economics. In its usual sense, it means the payments made by the tenants to the landlord for the use of a building, or of a farm. But this makes no distinction between the income from the use of land and the return for the investment of capital in land. Only the former is to be called rent in Economics, and the latter is interest. Economic rent, therefore, is the payment for the services of land in production.

The rent that is usually paid by a tenant, *i.e.*, *gross rent*, includes (a) a payment for the use of land as such, *i.e.*, economic rent; (b) a return on the capital invested in the building or other improvements *i.e.*, interest, and (c) a payment for the services of the landlord or his agents in supervising the investment in land and building *i.e.*, *wages*. It may also include some payment on account of the risks which the land-owner might have borne in developing the land.

Ricardian theory of Rent: The classical theory of rent is usually associated with the name of David Ricardo, though it should be noted that the theory was stated in a crude form by other writers before him. According to him, "rent is that portion of the produce of the earth which is paid to the landlord for the original and indestructible powers of the soil." All lands are not equally fertile; there are inherent differences between different plots of land. Rent arises because of the differential advantage in production possessed by the superior lands over inferior lands.

Following Ricardo, let us suppose that a batch of settlers go to a new country, and begin to cultivate the lands. At first, they would cultivate only the best lands. As long as there is a plentiful supply of best lands, nobody would pay anything for land. The produce that is raised on the best lands is sufficient to meet the demand of the settlers. That community will pay no rent because nobody will pay anything for an agent whose supply is unlimited. Let us next suppose that another batch of settlers go to the country. The remaining best lands would soon be cultivated. But the total produce that is raised on all the best lands may not be sufficient to satisfy the increased demand for food. Under the circumstances, new settlers must begin to cultivate the next best lands, or the second grade lands. These lands yield less than the best lands. To the application of the same amount of labour and capital, the best land yields (say) 35 bushels, and the

second grade land yields 30 bushels. The price of wheat must be such that by selling 30 bushels of wheat, the expenses of employing that amount of labour and capital (including the normal profits of cultivation) must be covered. Otherwise the second grade lands would not be cultivated. When the second grade lands are cultivated, the best lands yield a surplus of 5 bushels above the expenses of production, which are the same on both classes of land. This surplus is rent, whether it is pocketed by the landlord or tenant. Similarly, if the demand for agricultural produce remains unsatisfied after all the second grade lands have been cultivated, the third grade lands must be cultivated. These yield less than the second grade lands, and so when they are cultivated, the second grade land yields a surplus; and the first grade land, a larger surplus. The second grade lands will then yield some rent, while that of the first grade lands will increase. This surplus, or rent arises because of the superior fertilities of the best lands.

Suppose labour and capital (including the profit of the cultivator) that are applied to one acre of first class lands will get their normal rewards if the total produce sells for Rs. 70 (i.e., Rs. 2 per bushel); and let us suppose that the price of each bushel is Rs. 2. At first there is no surplus, and the total sale proceeds are distributed among the labour and capital that are engaged. Suppose, owing to the increase of population, demand for agricultural produce rises. As there is not sufficient supply the price rises from Rs. 2 to Rs. 2 $\frac{1}{3}$ per bushel. It becomes profitable to cultivate the second class lands with the same amount of labour and capital. The produce per acre is 30 bushels and its price is Rs. 70,—the sum just sufficient to remunerate the labour and capital. Since there can be only one price in the market, the produce of the 1st class land will sell for Rs. $\text{Rs. } 81 \frac{2}{3}$. The expenses on account of labour and capital are Rs. 70. The 1st class land will, therefore, yield a rent of Rs. 11 $\frac{2}{3}$.

Moreover, the best lands will be more intensively cultivated as the demand for agricultural produce rises. But as more labour and capital are applied, the law of diminishing returns will come into operation. The second "dose" of labour and capital will yield less than the first; and hence there will be a surplus on the earlier doses of labour and capital over the marginal dose. As the best land is thus cultivated more intensively, its rent will rise.

Lastly, situation is also a factor in the determination of rent. Suppose all lands to be equally fertile, but some are situated near the market, while others are situated at a distance from the market. The yield from all lands per acre is 35 bushels. If the price of wheat

is Rs. 2 per bushel, the distant lands will not be cultivated. For, in addition to the expenses due to labour and capital applied in cultivation, which are the same on all land, there is some additional expendi-

Situational rent.

Rent and the law of
D. R.

ture involved in sending the produce from the distant land to the market. So the cost will be higher on these lands. As the supply from the distant lands falls off, the price of crops therefore rises, and must be such as to meet the additional expenses of transport from the distant lands. The better situated lands, therefore, yield a rent. So all lands yield a rent because of differential advantages possessed by each piece of land, the advantages being either of fertility, or of situation.

As a natural corollary of his theory of rent, Ricardo held that rent was the result of price and therefore did not enter into price.

Rent does not enter into price.

The price of the produce tends to become equal to the cost of production on the marginal land. If the price of produce obtained on the marginal land does not cover the cost of production, that land will be naturally withdrawn from the cultivation of that crop. As a result, the supply of that crop will fall, but if the demand for foodstuffs is the same as before, the price will rise until the cultivation of that crop in those lands will be again paying. Thus the price of the crop will correspond to the cost of production of that crop on the marginal land. But the marginal land 'ex-hypothesi' is a no-rent land. Hence rent is not a part of the cost of production of the crop and consequently of its price. Thus according to Ricardo, high prices are the causes of high rents, and not *vice versa*.

The Ricardian theory of rent has been subjected to a good deal of criticism. First of all, it is pointed out that there are no inherent and indestructible powers of the soil. Good lands, after a few years of cultivation, lose their fertility because the chemical composition on which fertility depends is exhausted after a few years of continuous cultivation. This is of course true. But land also possesses certain qualities like the soil composition, humidity, the climate etc., which are indestructible.

The second criticism offered by Carey and Roscher is directed against Ricardo's order of cultivation. They point out that in new countries the best lands are not invariably cultivated first. Those lands situated near the human habitation are first cultivated, whether they are good or not. Thus the order of cultivation laid down by Ricardo is wrong. To this objection Walker replies that when Ricardo referred to the best lands, he took both fertility and situation into his consideration.

Another criticism against the Ricardian theory is that his contention that rent does not enter into price is unwarranted. We shall have a thorough discussion about the relation of rent to prices later in this chapter.

The Theory of Rent further considered: Rent is the price paid for the services of land, and like all prices is to be explained by the theory of demand and supply. Rent depends on the demand for land, and the supply of land available in a country. The amount of produce, and the margin of

cultivation on the demand side,* depend upon the number of population which consumes the produce; and on the supply side, they depend on the extent and fertility of the available land. Thus while the existence of rent does not call for a special explanation, the theory that has been stated is not inconsistent with the ordinary explanation of value. Only it goes a little further, and attempts to show the process by which rent came to arise.

It is not difficult at all to explain rent in terms of the general theory of marginal productivity. Let us assume, as in the case of

Rent and marginal productivity. labour, that all land is equally fertile, and situated at the same distance from the market.

In short, differences in fertility and situation are assumed to be non-existent. Suppose that a farmer is cultivating 100 acres of land with (say) 100 units of labour and capital. He is getting a certain amount of produce. He then takes up another acre of land, all other things remaining the same. So he will have to apply 100 units of labour and capital to 101 units of land. Each acre of land will then be cultivated more extensively than before. Total produce will now increase, but at a diminishing rate, and the amount of increase measures the marginal productivity of one acre of land. Rent will tend to equal the marginal productivity, and each acre will bring this amount to its owner.

But the different areas of land do not possess the same fertility and rent will differ accordingly. The existence of the difference com-

Will there be rent if all lands were equally fertile? plicates the explanation of rent, but does not introduce any new principle. The differences in fertility and situation are important factors

in the determination of the amount of rent. The rent of any given area of land does indeed depend on its superiority over the no-rent or marginal land. But it is not true to say, that rent will not exist if there are no differences in fertility or situation. Let us suppose that in a particular country, there are just 10,000 acres of land, all of uniform quality, and that each acre yields only 30 bushels of wheat, if appropriate amounts of labour and capital are applied to it, so that the total produce is 300,000 bushels. Let us suppose that the costs of labour, capital, profit of the farmer etc., amount to Rs. 60 per acre; so that the total cost of producing 300,000 bushels is Rs. 600,000. Let us suppose, further, that at the price of Rs. 2 per bushel, only 300,000 bushels are demanded. Under this circumstance, total sale proceeds exactly equal the cost, and nothing will be paid for land. Suppose, further, the demand for wheat increases. In order to increase the produce, each acre of land is cultivated more intensively than before. Costs of production rise, and to cover such rise, the price must increase. Cultivators get a surplus produce from the application of the first dose of labour and capital. Hence rent will exist so long as the possible output from land is such that demand can not be satisfied, and the price rises above the cost of production.

"The theory of rent of land is no isolated economic doctrine, but merely one of the chief applications of a particular corollary from the general theory of demand and supply. Rent arises because there is a scarcity of land in relation to demand. The only peculiarity is that the scarcity of land is more or less permanent, while the scarcity of other commodities is temporary. This fact introduces certain peculiarities, but does not make the theory of rent in any way different from the general theory of value.

Rent and Price: Rent, according to Ricardo, is the result of price, and hence does not determine the price of agricultural produce. Rent is the difference between the produce on the superior land over that of the marginal or no-rent lands. The marginal land pays, by hypothesis, no rent; and since the price of agricultural produce tends to equal the cost of production on the marginal land, rent does not determine the price. It is not true to say that rent is high, and therefore, the price of corn is high. The correct statement is that the price of corn is high, therefore rent is high. It is only when the price is high that the inferior lands are brought into cultivation, and the superior lands yield a surplus above the cost of production.

This statement has often been misunderstood. Of course it is true that to the individual businessman rent that he pays for his factory land is a part of his expenses of production which he must cover. From the individual point of view it is regarded as a part of the cost of production. But Economics is not concerned with the individual point of view. From the social standpoint, taking the land supply as a whole, the payments on account of land are not a part of the costs that make up the supply price of a thing. We have seen that all expenses of production reflect *real* cost of production. The supply of either labour or capital involves disutility, and hence a payment must be made to overcome this disutility. Wages and interest are therefore a part of necessary costs. But the supply of land as a whole involves no such disutility. It is a free gift of nature, and there is no element of real cost in the supply of land. The payment on account of the services, of land are not therefore a part of the *necessary* cost of production; *i.e.*, necessary to overcome any disutility.

This will be obvious if we suppose what would happen if no wages were paid. The result would be that the supply of labour would fall off materially, because very few people would work without any remuneration. Moreover, the population would decrease as the labourers would be unable to maintain themselves. Wages, therefore, must be paid if the supply of labour is to be kept adequate. But not so with land. If no rent were paid, the total supply of land will not go out of cultivation. The supply of land has not to be renewed; it needs no expenses of maintenance. Even if rents were materially reduced, or not paid at all, the supply of land would still be available

for cultivation. In this sense, therefore, rent is not a part of the supply price of a product.

Thus if we regard the supply of land as a whole, the total of rents paid does not form a part of the price of the produce. But the supply of land for the cultivation of any particular crop is not limited. A plot of land has alternative uses. In order to produce more paddy, more plots of land have to be cultivated. In order to attract more plots of land to the cultivation of paddy, the people would have to offer at least that amount which a plot of land would have earned when jute was cultivated. This is the transfer cost of land, and it enters into the cost and the price of paddy. If this cost is not met, the land will not be available for the cultivation of paddy. From the point of view of the supply of land as a whole, rent is a surplus above cost, and is not a part of the price of the produce. But from the point of view of the supply of land for any particular use, the rent to be paid is not a surplus, but a part of the cost of cultivation of the crop.

Urban Site Rent: Urban site rent is determined on the same principle as the rent of agricultural land. But in the case of urban sites, differences in fertility are of no importance. Their rent mainly depends upon the relative situational advantages of the different sites.

The rent for houses built for *residential purposes* depends upon situational advantages—such as broad street, frontage on parks etc. But other factors also enter in the determination of demand of some spots to the exclusion of others. "Nearness to one's kind is in many cases alone sufficient to explain the demand for some spots. Crowded, noisy and unhealthful city streets attract the working-class more than quiet lanes in the country." The rich are attracted to other quarters, where the fashionable people live. Certain streets are flocked by those who want social distinction.

In addition to situational advantage, investment of more capital on the same plot of land for adding additional storeys also gives rise to rent. The law of Diminishing Returns operates both on agricultural land and on urban sites. After the addition of a few storeys the marginal storey is reached where the annual cost of management, maintenance and upkeep is equal to its rental value. Due to many reasons the lower storeys are rented at a progressively increasing rent, especially when the building is let for commercial purposes. The difference between the letting values of the lower storeys and the marginal storey constitutes rent.

All building sites give rise to the problem of unearned increment. The suburbs of a town at first command a low rent, but as the town

is extended, the suburbs acquire value and the building sites begin to command higher rent.

Similarly, with the opening of new streets or with the building of new parks, sites facing those streets or parks earn high rent, though the owners of such sites have done nothing to enhance the value of their sites. Agricultural land some-

times earn unearned increments, *e.g.*, when a town springs up in the vicinity of such lands and those agricultural lands are used as suburbs or when railway lines are opened and lands become connected with some market. The increase in the rents and the capitalized value of urban sites is a common experience in many countries. This reaping of unearned increments of rents by the owners gives rise to complex social and political problems. The socialists maintain that such unearned increments should be confiscated by the state and the exchequer finds them proper objects for heavy taxation.

The Rent of Mines, Quarries and Fisheries: The working of mines and quarries differs from the cultivation of agricultural land

The rent of mines and quarries. in this that mines and quarries are sooner or later exhausted, while the land is a perennial source of income. The payment made by

the leaseholders of mines and quarries includes two sorts of payments, one is royalty for the exhaustion of the contents, and the other is the payment analogous to rent for the differential advantage of one mine over the marginal one. This last factor constitutes economic rent, as it is calculated from the marginal unit. We find both extensive and intensive margins in the working of mines. The extensive margin is obtained by comparing different mines, and the intensive margin is obtained from the working of the same mine more intensively by the application of more and more capital.

The leaseholder of a mine generally makes two sorts of payments; one an agreed annual rent known as the dead rent, calculated on the principles of agricultural rent; the other is the royalty, payable at a fixed rate on each ton of mineral extracted. Now the question is whether the royalty is to be regarded as rent proper. Marshall holds that the royalty is the compensation for the exhaustion of the minerals, and is quite different from rent. Taussig holds a different view. He doubts whether any payment at all, royalty or whatever it be called, can be secured by the owner of the poorest mine. Deposits of this sort are at the margin of utilization and at the margin there is no surplus of any sort. According to him, where royalties are paid for *well-known* mines they are simply rent, because the poorest mines can make no payment, whether dead rent or royalty.

Fisheries, where perennial supplies of fish can be obtained, have an income in the nature of rent, the rent being measured upwards from those fisheries which are regarded as marginal either because of their low productivity, or because of inaccessibility.

Economic Progress and Rent: Following Ricardo, let us suppose that an improvement is effected in agricultural machinery, or

Agricultural improvements. an improved type of manure is invented by which production per acre of field increases very much. Then the net result in

any case will be that there will be more produce per agricultural

labourer. Supposing that the demand for agricultural produce does not rise, the increased production would bring down prices. The marginal lands (*i.e.*, the lands which were barely worth cultivating at the older and higher prices), would go out of cultivation, and the aggregate rents would fall. But the improvements may affect the rents of the different grades of land differently. Better lands may respond in a higher degree to improvements than lower grade lands. In such a case instead of falling, rents on better lands might increase. But if the improvement affects the lower grade lands only, then they may become as productive as the better grade lands. In such a contingency the rent of better class lands may fall or dwindle to zero.

Now we shall consider another class of improvement *viz.*, improvement in transportation and its effect on rent. If, by some

invention, transportation is cheapened in a particular country, the rent arising out of situational advantage will gradually dwindle.

Improvement in transport. The market will be supplied from the outlying districts of the country and consequently the rent of lands near the market will fall and the rent of the lands in the outlying districts will rise. Similar is the case when an old country is supplied by the produce from the fertile areas in new countries. The rent of newly opened-up areas rises while the inferior lands at home go out of cultivation. Therefore the aggregate rents fall in old countries and rise in new countries.

The amount of rent varies directly with the growth in the number of population. An increase in population creates a greater demand for agricultural produce. This extra demand is

Growth of population. met either by intensive cultivation on the better grade lands, or by having recourse to inferior lands. The margin is lowered and the rents tend to rise. Further, the growth of towns encourages the use of land for purposes other than the raising of produce. This brings about a greater scarcity of land than before for agricultural purposes. Hence the rent increases still more.

Lastly, as the incomes and the standard of living of the people rise, the proportion of their incomes spent on the staple articles of food diminishes. The capacity of the human stomach is limited, and so when the income is doubled the individual may double his consumption of many things, but he will not double his consumption of simple forms of food. The proportion of income spent on foodstuffs thus continually diminishes. Hence with the rise in the standards of living, the price of agricultural produce falls relatively more to those of other industries, or does not rise as much as in other industries. The rents, therefore, fail to rise as rapidly as the incomes from other industries. This happened after the first world war.

Quasi-rent: The concept of quasi-rent was introduced into Economics by Marshall. By quasi-rent he meant "the income derived

from machines and other appliances of production made by man." His argument is that the supply of land and other free gifts of nature is fixed for all time to come. The

Nature of quasi-rent. stock of appliances made by men may remain fixed in short period, but this supply may be increased to a considerable extent if sufficient time is allowed. We have already seen that the income from any agent of production which is permanently fixed in supply is to be regarded as rent. If limitation in supply gives rise to rent, we may call the income from every property whose supply is limited, whether permanently or temporarily, as a sort of rent. Marshall suggests that the income from those things which are permanently fixed in supply should be regarded as rent; whereas the income from those things which are temporarily fixed in supply should be regarded as quasi-rent—"rent" because it partakes of the nature of rent as its supply is limited, but at the same time, 'quasi' because the limitation in supply is not permanent, but more or less temporary. To take an illustration, suppose the demand for fish increases suddenly in a particular season. The supply being not equal to the demand, the price will go up. Of course, fishermen, tempted by the high price shall try to catch more fish by working extra time and by requisitioning boats and nets which were out of use. But still the supply cannot be equal to the demand. If the demand persists for a longer period, new boats and nets will be made and more persons will be attracted to the trade and the supply price will come down to its former level. The income from their boats and nets is to be regarded as quasi-rent. This illustration was chosen by Marshall in order to show that the supply of man-made appliances may fall short for the time being, but their supply may be increased later on. From this it is not to be supposed that quasi-rent is the surplus of income over normal return from appliances made by men, whether considered in the short period or in the long period. Flux and others hold that the quasi-rent is not the whole of the income derived from property, but only the excess over the normal return. Flux would regard any deficiency between such income and normal return as 'negative quasi-rent'. But these conclusions are unwarranted. The whole of the income at any period from man-made appliances is to be regarded as quasi-rent and not merely the surplus or deficiency over normal return.

The likeness between rent and quasi-rent lies in this: in the short period the supply of appliances is a *fixed stock* just as land is, the income from such appliances in the short period bears the same relation to price as the rent does to land. But there is also unlikeness between rent and quasi-rent. Land in

The likeness and unlikeness between rent and quasi-rent.

old countries is approximately a permanent and fixed stock, while the appliances made by man are a flow capable of being increased or diminished at will with variations in demand. The permanent scarcity

of land gives rise to the phenomenon of rent, and rent as we know does not enter into price. In the short period due to the shortage in supply of man-made appliances or improvements, the income from these sources does not always bear any relation to costs of production. But in the long period the quasi-rent is not a real surplus; the sum total of all quasi-rents must cover the normal return to capital. In the long period, therefore, quasi-rent is not a real surplus, but enters into cost of production. Hence it is an unnecessary profit in the short period, but a necessary part of normal profit in the long period.

There is a second sense in which Marshall uses the term quasi-rent. He holds that quasi-rent is an element in wages* and in profits.

The income of a man which is due to acquired personal qualities is in the nature of quasi-rent. 'A person is supposed to have a certain capital invested in training or accustoming him to some lucrative occupation and the income which he derives from the qualities he thus acquires..... is to be called quasi-rent when thought of not in relation to the capital invested but as a certain amount in the same way that rent is thought of.' It differs from what Marshall calls the rent of "extraordinary natural abilities" because these are given by Nature like 'pure' land.

Thus Marshall does not stick to his own definition of quasi-rent as an income from appliances made by man. Cannan† rightly objects to Marshall's application of the term in the second sense. There is a good deal of difference between the ownership of an appliance and the possession of personal qualities. You cannot distinguish between the income derived from the source of current labour and the part derived from the source of personal qualities. Marshall himself says "human beings are not brought up to their work on the same principles as a machine, a horse or a slave."

Hence it is better to regard the income derived from labour as a whole, the differences in the incomes of labourers being explained by the distribution of natural and acquired talents, than to make a classification of labour incomes into income from personal labour and the income from natural or acquired qualities.

(The relation of interest to quasi-rent is considered in the next chapter).

* Marshall—*Principles of Economics*. Page 504.

† *A Review of Economic Theory*. Pages 327-29.

CHAPTER 26

INTEREST

Interest is the price that is paid for the use of the factor 'capital'. In Economics, the term, 'interest', refers to the payment for the use of capital, when there are no risks of non-

Gross and net interest. payment, when there are no inconvenience and no additional work consequent on the loan. This is also referred to as 'pure', or 'net' or 'economic' interest. But the sum that is usually paid by a borrower includes, besides pure interest, payments to cover the risks, payments on account of the troubles and inconveniences to which the lender is put and also payments on account of the work that the lender is called upon to do. This gross interest includes (a) i.e., the payment on account of the use of capital only; (b) insurance against risks; (c) payment on account of trouble and inconvenience. These risks have been divided by Marshall into two classes, trade risks and personal risks. The former arise from the fact that before production is over the demand may change, or the price of raw materials may fall, or new inventions may lower the cost and hence the price of the product may also fall. The latter arise from the fact that the borrowers may be dishonest, or incapable. The lender must be paid an additional sum to recompense him for these risks. Where a loan involves risks, the lender is put to a great deal of trouble in keeping these risks as small as possible. Moreover, the borrower may repay at a time very inconvenient to the lender, when he cannot find any fresh outlet for his capital; or the lender may be called upon to invest his capital for periods longer than he thinks desirable or safe. The greater the inconvenience, the higher the gross interest. (d) Lastly, gross interest also includes payments on account of work. Every loan involves some amount of work in keeping records of the payments of small instalments, etc. The lender expects to be recompensed for this additional work.

Thus gross interest may often be very high, while net interest may be low. Moreover, net interest tends to be equal throughout a country. The force of competition will settle one single rate for the whole country. But there is no tendency of equality of the rates of gross interest between different places within a country.

Theories of Interest:

The Productivity Theory of Interest: The theory states that interest arises on account of the productivity of capital. The amount that labour produces with the help of capital instruments is generally larger than the amount it can produce when working by itself. Tools and machineries invariably add to the income of those that

use them. That is why they are demanded by the individual employers. The use of capital, as we have pointed out, means round-about production. Labour is first engaged in the making of tools and plants, developing the means of communication; after a certain period is passed the final product emerges. Thus as more and more capital is used the method of production becomes more and more round-about. And usually, though not always, the more round-about the methods of production, the larger is the volume of the output.

The use of capital in production is subject to the law of diminishing returns. As increasing units of capital are applied, as the methods of production become more and more round-about, or capitalistic, (the supply of other factors remaining the same), the output increases, but at a diminishing rate. An employer will go on adding more and more units of capital until he stops at that point where the price that he has to pay for each unit is just equal to its product. Similarly, in his search for profit, he will substitute units of capital for those of labour or land, if he thinks that at their relative prices he will increase the output in a greater ratio than the expenditure involved. At last he will arrive at the margin of indifference, he is indifferent whether he uses more capital or more labour or more land because the addition of any of them will increase the output in the same ratio. What is true of the individual entrepreneur is true of the society. The rate of interest will therefore tend to be equal to the marginal productivity of one unit of capital.

The theory has been criticised in recent times. The phrase, 'capital is productive' may mean one of the two things—that capital produces either more goods or more value.

The theory involves a circular reasoning. The increase of physical products is obvious enough. But from this fact we cannot conclude that capital produces more value. To deduce that, we must first know the value of the capital goods that are employed originally. The present value of capital goods depends upon the value of their future incomes, and "in this dependence lurks implicitly the rate of interest". The value of machinery is determined by discounting its future incomes, and in the process of discounting, we must assume a rate of interest. If, from a machinery worth Rs. 20,000, we get an annual income of Rs. 1,000, we cannot at once say that the rate of interest is 5 per cent. All that we know is that from the machinery, we get an income of Rs. 1,000 per year. And by capitalising this sum at 5 per cent., we determine that the value of the machinery is Rs. 20,000. Therefore, when we say that the price of the machinery is Rs. 20,000, we have already assumed that the rate of interest is 5 per cent. How can we then determine a thing which we have already assumed in our figures? The productivity theory therefore involves us in circular reasoning.

None-the-less, that productivity exercises some influence on the determination of the rate of interest cannot be denied. Even Fisher,

the most relentless critic of this theory admits this in the very title of his book: "The theory of interest, as determined by the impatience to spend income and the *opportunity to invest it.*" The latter is nothing but productivity of capital in different industries.

Influence of productivity on interest. If we accept the neo-classical theory that the rate of interest is determined by the demand and supply of loanable funds, the marginal productivity of capital will be an important factor determining the businessman's demand for loanable funds. Other things remaining equal, autonomous changes in the marginal productivity of capital, caused by new inventions, or new sources of power, or other dynamic changes, are likely to raise the demand for such funds for investment, and hence the rate of interest. On the basis of Keynesian theory, changes in the marginal productivity of capital influence the rate of interest by affecting the demand for money. Improved prospects of investment induce businessmen to demand larger funds to finance projects of capital construction. Other things being equal, this will cause the rate of interest to rise.

Abstinence, or Waiting and Interest: The productivity theory explains why capital is demanded. Attention is now concentrated on the influences that limit the supply of capital. Senior was the first economist to point out that saving, which was later embodied in capital-goods, involved a sacrifice, an 'abstinence' as he called it. People may spend the whole of their income in consuming present goods. But when they save, they 'abstain' from present consumption. Such abstinence is disagreeable. Hence in order to induce people to save, we must offer them certain inducement as a compensation for their sacrifice. Interest is therefore the compensation for abstinence.

Criticism was soon raised against the word, 'abstinence' in that it always suggested an idea of suffering. But not all saving involved pain or discomfort. There is no pain-element in the savings of a Ford. Hence in answer to this criticism Marshall substituted the word, 'waiting' for abstinence.

Saving connotes waiting. When an individual saves a part of his income, he does not thereby refrain from consumption eternally. He only defers his consumption for a certain period, *i.e.*, till the fruits of his saving come in an increasing flow. Meanwhile he must wait, and as a rule people do not like to wait. Not only saving, but all kinds of productive activity involve waiting. The farmer who sows his crops must wait till the crops are harvested. The gardener who plants a seed must wait till it grows into a tree and yields fruits. Labour must be bestowed sometime before the final output can be consumed. Meanwhile, either the labourer or the capitalist must wait. Waiting is therefore a necessary condition of production. It is thus a separate factor of production, and can be substituted for other factors.

Since waiting is a factor of production, its price will be determined

by the marginal analysis. That is, the rate of interest tends to equal the reward necessary to call forth the marginal increment of saving. There may be certain amounts of waiting that will be supplied even if there be a negative rate of interest.

Individuals may be so extremely cautious by temperament, or so anxious about providing for the future, that they will save even if they get back a smaller sum in the future. It should be remembered that though such cases are theoretically possible, they are rare in actual life. Similarly, there would be some waiting if there was no interest, a case perhaps more common. The richer persons cannot but save; it is impossible for them to spend the whole of their huge income. Hence in their cases, waiting is more or less automatic. There may also be cautious persons who will save if they are assured the receipt back of the same sum in the future. Also a greater amount of waiting will be supplied at very low rates of interest. But the aggregate amounts of waiting that will be supplied in this way are not usually sufficient to satisfy the demand. The rate of interest must go up until the marginal savers contribute their mite. At this point, supply of waiting is equal to its demand. Strictly speaking, it is not correct to speak of the marginal saver; rather the expression should be the marginal increment of waiting that is required in production. The rate of interest must be high enough to call forth this increment of saving.

This theory provides the reasons for the scarcity of savings, or of the supply of loanable funds so far as the latter depends upon the volume of voluntary savings. But it does not furnish a complete explanation of the factors determining the rate of interest. The supply of loanable funds is scarce, not only because people do not like to wait, but also because they may like to hold cash at present.

Time Preference, or Agio and Interest: The theory states that interest is the agio or the premium which present goods command over future goods of like kind and amount. This premium arises from the fact that men as a rule prefer the present to the future. Just as owing to the defects of our ocular vision, distant things appear smaller, so owing to our mental make up, future goods, or future satisfactions appear smaller than they actually are. That is, the future undergoes a discount when reviewed from the present. That discount is the interest.

In a definite form, the theory was first advanced by John Rae in 1834. Later, it reached full development at the hands of Bohm-Bawerk, the leader of the Austrian school of economics, and of Fisher. There is a slight difference in the presentation of the theory by Bohm-Bawerk and by Fisher.

According to Bohm-Bawerk, present goods possess an agio over future goods, owing to the fact that people prefer a present satisfaction to a future satisfaction of an equal amount and of equal certainty. This preference, according to him, is due to three circumstances. *First,*

the future is less clearly perceived than the present. This fact is called "the perspective under-estimate of the future". *Secondly*, owing to the fact that the present wants are felt more strongly than the future wants, the demand for the present goods is relatively greater than that for the future goods. Hence there is a relative scarcity of present goods as compared with future goods, (*i.e.*, scarcity in relation to demand.) *Thirdly*, the more roundabout are the processes of production, the greater is the final output. Hence owing to the greater productiveness of the time-consuming, or indirect methods of production, present goods possess a 'technical superiority over future goods'.

Fisher would accept the first two conditions. But the third, in his opinion, surreptitiously brings in the productivity theory. The greater productivity of the longer processes of production requires more proof than has been adduced by Bohm-Bawerk. Granting the proposition, it appears to be nothing but the productivity theory of which Bohm-Bawerk had been the vehement critic. Moreover, according to Fisher, the third factor acts on interest by modifying the first two factors. Owing to the greater productivity of the capitalistic process of production, there is an abundant supply of goods in the future. Hence the demand for the future goods will fall relatively to the present. Owing to this reason, and also because of the greater urgency of the present needs, the present goods are preferred to future goods, and therefore possess a technical superiority over the latter. The third factor is therefore not an independent determinant of interest, but works out its effect through the first two factors.

According to Fisher, "time-preference" is the central fact in the theory of interest. By that phrase he meant what Bohm-Bawerk understood by "the perspective underestimate of the future". It is the preference that an individual has for present income or satisfaction over future income or satisfaction of equal amounts and equal certainty. It will be determined by the rate which will overcome the individual's impatience to spend income. This degree of

The theory as stated by Fisher. impatience of an individual depends, first, upon size of his income; secondly, upon the distribution of the income in time; thirdly, upon the composition of the income; fourthly, upon the certainty of enjoying the income in the future; and lastly, upon individual characteristics, like foresight, self-control, etc. The higher the income the greater is the chance that the present wants will have been more satisfied. Hence the individual will discount the future at a lower rate. Converse happens with poor persons. The distribution of the income may be conceived in three different ways:—uniform income throughout, income increasing gradually in the future, and income decreasing in the future. If the income is uniform throughout, the rate of impatience will then be determined by the size of the income and upon the personal characteristics.

If the income increases with age, it means that the future is well provided for while the present income is relatively small. Hence the latter will be relatively scarce, and the rate of discount will be high. The opposite is the case with decreasing income over a period, and the rate will be low. Similarly, the composition of the income works out in this way. The incomes of individuals are spent on different sets of goods and services. The diminution of any one set of goods and services would affect the rate of time-preference in the same way as a decrease of income of the individuals. Lastly, if the future is uncertain, the rate of time-preference would be high. But the discussion of the influences of risk and uncertainty belongs, not to the scope of the theory of interest, but to the theory of profit. Above all, everything depends on personal character. If the individual is of a spendthrift character, the degree of his impatience to spend would be very high.

After the individual rates of time-preference are determined in this way, they tend to become equal to the rate of interest. When the rate of time-preference of an individual is higher than the market rate of interest, he will borrow and apply the sum to satisfy his more pressing wants; just as he would buy additional units of a commodity when the marginal utility of additional units to him is higher than the price. Similarly, when his rate of time-preference is lower than the rate of interest, he will lend to the market and gain thereby. In this way, the individual will vary his income-stream, by borrowing or lending, until his rate of time-preference is equal to the rate of interest.

Liquidity-Preference and the Rate of Interest: Recently Lord Keynes has put forward a new theory of interest. According to him, neither the theory of marginal productivity, nor that of waiting is adequate to explain the rate of interest under all circumstances. Of

His criticism of orthodox theory. course it is true that the marginal net product of capital tends to become equal to the current rate of interest. But that does not mean that the rate of interest is determined by the former. The marginal net product of capital is determined, on the one hand, by the expectations as regards the future course of business, and on the other hand, by the cost of producing the capital goods. These influences cannot determine the rate of interest. Similarly, the rate of interest cannot be the reward for saving only. "For if a man hoards his savings in cash, he earns no interest, even though he saves just as much as before."* Nor is it true to say that the rate of interest must be such as to equalise the demand for capital with the supply of savings. The volume of savings in any country is of course equal to the value of investment goods, but not in the way assumed in the classical theory. When a particular individual saves a greater portion of his income than before, his action, by itself, does not increase the aggregate supply of savings. Since he is now spending less money on the current consumption goods the incomes

* Keynes. *The General Theory of Employment, Interest and Money* P. 167.

of the producers of consumption goods fall off. "One man's expenditure is another man's income, and when one spends less, the other men earn less." So the immediate result of the increased saving by one individual is a fall in the incomes of some others. The others will ultimately be forced to save less. Hence the total savings will not increase. Provided there is no new investment in capital goods, increased savings by one individual will only lower the incomes of others. But when the businessmen decide to produce more capital goods, more money is spent by them in hiring the factors of production, or in buying raw materials, etc. The incomes of the factors of production increase. And given the same desire to save as before, the aggregate savings will also increase. Thus when investment increases, the volume of savings will also increase through higher incomes. So the volume of savings is brought into equality with the value of investment goods, not through the instrumentality of the rate of interest, but through the level of incomes.

The rate of interest is the price that has to be paid to borrow money. The essence of a transaction involving the payment of interest is that the lender parts with money or immediate command over general purchasing power in return for a promise to pay the principal sum and something extra in the future. If the borrower returned at the time

Interest is the payment made for borrowing money.

of repayment the same sum of money that he borrowed, the lender would have no incentive (apart from philanthropy) to part with his money. Hence the borrower must pay something extra in addition to the sum borrowed. This something is the rate of interest on the loan. Thus the rate of interest is the reward which is paid to the lender to overcome the latter's unwillingness to part with liquid control over money. In other words, it is "the reward for parting with liquidity."

The individual who possesses a certain amount of money income has first to decide how much he will save. This will depend on what

Meaning of Liquidity-preference.

Mr. Keynes calls as the *propensity to consume*. Given the propensity to consume, or its converse, the desire to save, the individual will save a certain proportion of his money income. It remains for him to take another decision. He may hold his resources in the form of money (or immediate command over goods and services); or he may part with immediate command over general purchasing power in return for a promise to pay at some future date. In other words, he may "hoard" them, or lend them at interest. How much of his wealth he will hoard (*i.e.*, hold in the form of cash or bank deposits), and how much he will lend will depend on the degree of his preference for retaining a portion of his resources in the form of money in different sets of circumstances. This preference for liquid cash over loans is termed "*liquidity preference*."

Now the question is, why should any one want to hold his resources in the form of current cash in hand, or in the form of bank deposits, on which he earns no interest, when he can

Causes of Liquidity-
preference.

easily get interest by lending them? There must be some reasons which induce individuals to forego interest and hold their wealth in the form of idle money. This preference for holding one's resources in a liquid form is due to a variety of reasons. First, an individual will hold cash in order "to bridge the interval between the receipt of income and its expenditure." Most of us receive our income after a month or a week, while we have to make payments almost day by day. Hence we must hold a certain amount of ready money in hand in order not to default in our current payments. The amount of cash which will be required on this account will depend on the level of incomes, on the interval at which incomes are received, and on the methods of payments prevailing in that locality. Secondly, the businessmen and the traders must also keep a certain amount of cash in their till, partly to oblige their customers and partly to make payments. Thirdly, cash is also held in order to provide for contingencies which may necessitate sudden expenditure. It may not always be possible to call in the loans granted, or to sell the securities profitably when sudden emergencies make it necessary to have ready cash. Lastly, cash may be held by individuals from a speculative motive. The individual may expect a future rise in the rate of interest. He may therefore hold his resources in the form of cash, with a view to lend them in future at higher rates. Conversely, when people expect a fall in the rate of interest in the future, they would at once proceed to lend their resources at existing higher rates, and thus decrease their holdings of cash. So long as there are differences of opinion as regards the future movements of the rate of interest, some will be holding money, with a view to earn profit from a future rise, while others will be parting with their money as they fear a fall in the rate of interest. Under normal circumstances, the amount of money which will be held in order to satisfy the first three types of motives is not much affected by changes in the rate of interest. It will depend on the level of incomes and on the general economic activity. The amount of money which is held on these accounts might be called as the *active balances*. But the amount of money which is held to satisfy the speculative motive is sensitive to changes in the rate of interest. And the amount of money held on this account might be called as *inactive balances*.

Usually the higher the rate of interest, the smaller, in general, is the proportion of their resources which people will want to hold in the form of cash. For the loss of interest on idle cash will then be greater, while the gains from lending and from the purchase of securities are correspondingly higher. People will then be anxious to lend. Some people may expect a future fall in the rate of interest,

and will then want to lend. Lastly, the higher rates of interest will check business enterprise, cause new investments to fall; the level of money incomes will decrease; and the amount of money required for transaction purposes will now be smaller. Similarly, at lower rates of interest, people will want to hold more money, because the loss of interest will now be smaller; because some people will expect a future rise in the rate of interest, and so will hold idle balances at present; and because lower rates of interest will increase the level of money incomes. Thus we can draw up a schedule of liquidity-preference, showing the amounts of money which people will want to hold at different rates of interest.

Given this schedule of liquidity-preference, the rate of interest will then be determined by the quantity of money existing at any time.

The rate of interest and the quantity of money. "This is where, and how, the quantity of money enters into the economic scheme."* The rate of interest must be such as will

equate the demand for money for liquidity purposes with the supply of money. The amount of money existing at any time must be held by some individuals. And the rate of interest will be such as will induce the individuals to hold all the available supply of money. If the rate of interest were lower than this unique rate, the aggregate amount of money which the people will wish to hold will be greater than the supply of money. This would cause the rate to go up. Conversely, if the rate were higher than this level, there would be a surplus of cash, which no one would wish to hold. Thus the schedule of liquidity-preference and the quantity of money in existence determine the rate of interest at any given time.

One important difficulty in connection with the theory is that Keynes is not very clear on the meaning that he attaches to "money". Money, he says, is co-extensive with bank-deposits. But he states in his discussion with Robertson that his theory does not run in terms of demand for and supply of *credit*. Moreover, the rate of interest is not independent of the demand for investment funds, as is stated by Keynes. The amount of cash balances that the businessmen will hold is influenced to a large extent by their demand for capital for investment purposes. The rate of interest is not therefore determined independently of the marginal efficiency of capital. However, as Prof. Robertson has pointed out, Keynes' statement is not incompatible with the neo-classical theory. The rate of interest may well be regarded as the reward for not hoarding (as in Keynes), and also for not spending it for consumption.†

What determines the rate of interest? These theories may be divided into two groups, the neo-classical theory and the Keynesian theory. The former regards the rate of interest as being determined.

* *Ibid.* P. 168.

† *Economic Journal*, 1937. P. 431.

by the demand and supply of loanable funds. The demand for loanable funds arises from a variety of causes: the application of these funds in the adoption of round-about processes of production increases the income of businessmen at a greater ratio in the future so that they demand more funds; or the government becomes willing to pay something in order to get command over present resources to conduct a variety of operations like a war etc.

The supply of loanable funds depends upon two factors, the volume of voluntary savings and the bank loans. The aggregate demand for and supply of savings determine the rate of interest. It will settle at the point where demand and the supply of loanable funds are equal.

Influences on the supply side. An increase in the volume of savings will tend to increase the supply of such funds; and to depress the demand for funds as increased savings will mean decreased consumption. This will cause the rate of interest to fall.

According to the Keynesian version, the rate of interest is determined by the demand and supply of money. The supply of money depends upon the banking system. The demand for money is dependent on the liquidity-preference of the people. The demand for money at a given rate of interest must be such as to absorb the aggregate supply of money. If, as a result of the inflation of currency, the supply of money increases in a country this will cause the rate of interest to fall, provided that the fact of inflation does not cause a change in the liquidity-preference.

The two groups of theories are not so conflicting as they appear at first sight. The inflation of currency will also increase the supply of loanable funds in the country, and lead to a fall in the rate of interest. A change in the liquidity-preference will cause the people to supply more or less funds as loans in the market, and may be said to affect the rate of interest by affecting the supply of such funds.

What is then the relation between the volume of savings and the rate of interest? The volume of savings depends on the level of money-incomes and the propensity to save, i.e., the proportion of their incomes which people want to save at different levels of income. But given the state of liquidity-preference, an increase in the volume of savings is likely to increase the supply of loanable funds in the market, and to result in a fall in the rates of interest. Hence the volume of savings influences the rate of interest by affecting the factors which determine it. Secondly, once the stage of full employment is reached, there will be established a direct relation between the volume of savings and the rates of interest.

The future of interest—effect of inventions: What will be the future rate of interest? How will the progress of society affect the rate? Interest, as we know, depends on two factors,—the demand and supply of loanable funds or money. The future of the rate of interest therefore depends on the fact whether the demand for loans will continually increase owing to the inventions and improvements, or whether there will be larger supply of funds as society advances. It depends, in the words of Taussig, "on a race between accumulation and improvement."

The general expectation is that the supply of loanable funds will increase vastly, mainly because as man advances in the scale of civilisation, he becomes in general more far-seeing. The primitive savage never gave any thought about the future. But as man has progressed, he has become more willing, nay, eager to save something for the rainy day. Moreover, the capacity of the people to save will increase greatly owing to the greater general productivity of industries, and the greater personal efficiency. The total national income is expected to increase, and with it the share of each person. Hence the supply of savings would continuously increase. This is likely, other things being equal, to increase the supply of loanable funds, and hence to lower the rate of interest.

But whether it will fall or not will depend on the future demand for such funds. That depends upon the progress of inventions and improvements. Such inventions will always raise the demand for loanable funds. The new type of machinery will have to be built and installed. It may call for more and more elaborate plants, or lengthen the processes of production. In that case, the demand will increase. On the other hand, as Rae pointed out long ago, the division of labour had a tendency to economise waiting. The improvement in the methods of production may shorten the processes already done by the machineries by making some of them simpler and easier. The ultimate effect of the inventions will depend on the relative influences of these two circumstances.

On the whole, there is every likelihood that the rate of interest will fall in the future. There are also two other reasons why the

Will the rate of interest be ever zero?

In the first place, the general tendency has been, especially in the western countries, for the growth of population to become stationary or even to decline. This is likely to lower the demand for loanable funds as given the same structure of production less capital will now be required to produce the same volume of goods per head. Secondly, as a community grows richer, its propensity to consume declines. The proportion spent on consumption tends to diminish and the proportion saved to increase, as the total

income increases. Decreased propensity to consume is likely to depress present consumption demand as well as the demand for capital goods. As a result, the rate of interest is likely to fall. *Will it ever fall to zero?* From the point of view of the demand for loans, zero rate of interest means that the marginal net product of capital is nil. When the marginal net product is nil, that means we cannot increase the product further by employing more capital. We have reached a state in which our productivity has become the maximum. It means that all our wants have been satisfied. But we cannot conceive of a state of society in which men will have no wants, and no desires. So long as the latter remain, there will always be endless possibilities of employing capital. The rate of interest, therefore, can not fall to zero.

Similarly, from the side of supply, a zero rate of interest means that people will go on lending without expecting any reward. There is no liquidity-preference on the part of the people. But there are certain reasons why the liquidity-preference will not drop to zero. As the rate of interest falls, more money will be absorbed into liquidity preference on account of the transactions-motive, while the fall in the rate of interest will diminish the loss that one would sustain in keeping larger cash at hand. Hence "institutional and psychological factors are present which set a limit much above zero to the practical decline in the rate of interest." Hence there is no possibility of the rate of interest ever falling to zero.*

Different Rates of Interest: So long we have been treating of economic interest. Pure interest should remain at the same rate everywhere, provided there is full competition. But in fact, the rates of interest are different in different countries. Even within the same country the rates of interest charged by different lenders differ widely. What are the causes of these differences in the rates of interest?

Differences in interest rates are primarily due to the fact that all borrowers cannot offer equally good securities. Where the lender is sure of the honesty and financial strength of the borrower, and knows that there will be no default, as in the case of the government, he will be willing to lend at comparatively low rates of interest. But he will charge a high rate if he expects the opposite as in the case of our cultivators. A second reason for the difference in interest rates is that different loans are granted for different periods. If a loan is required for a long period, the lender will lose command over his resources for a long time. His position will become less liquid, and he

* According to Prof. Schumpeter, the rate of interest would be zero in the static state. Interest arises because the entrepreneurs demand capital, lured by the prospect of temporary profits. But profits disappear in the static state: and hence interest would fall to zero. But this concept is mistaken. Even in such a state, there would be 'implicit interest' as a result of 'abstinence in the sense of refraining from accumulation.' See L. Robbins, "On some ambiguity in the conception of the stationary equilibrium," *Economic Journal*, June, 1930.

will expect to be paid a higher rate of interest than if the loan was required for short periods. Lastly, the market for loans is usually imperfectly competitive. It consists of a large number of sub-markets specialising in different types of loans. The joint-stock banks grant loans to some class of borrowers, while the indigenous bankers deal with another class. The village money-lenders have often not to meet with much competition in their business of money-lending. Hence different rates of interest may prevail in different markets without there being any equalising tendency. People in the villages may prefer to keep their money in the Post Office Savings bank at low rates, than to keep it at joint-stock banks at higher rates.

The last factor (*i.e.*, market imperfections) explains why the rates of interest may remain at different level in different countries. The lenders in one country may be reluctant to invest their funds in another country even if they can get higher rates as they may not like the securities that the borrowers can offer or because the political future or the economic potentialities of that country are not properly known.

Necessity and justification of interest: The payment of interest has become respectable only in recent times. From early days there has always been a sting of reproach round the theory of interest. The ancient people had no idea of the nature of services rendered by capital. Hence Aristotle condemned usury in no measured terms. Following him, the scholastic writers held that the loan of money was not a sacrifice on the part of the lender, nor a benefit to the borrower, and hence to derive interest from money was to make an unnatural use of money. In such times, there was not much field for the profitable use of capital; most of the loans were consumption-loans, granted by rich persons who had surplus money, and borrowed generally by poor and needy persons. Hence the dealings in interest were condemned.

In recent times, the criticism of Karl Marx and other socialists has brought the question of the justification of interest to the forefront.

Socialistic criticism of interest. Value, according to Marx, was determined by the amounts of labour required in production, and hence value should belong wholly to labour. But the labourers were paid only what was required for their subsistence, and the 'surplus' was appropriated by the capitalists. Hence interest, according to Marx, was theft, or robbery. In the socialist state, there would be no interest.

It is not the place here to discuss the ethics of private property. So long as we maintain the institution of private property, interest has to be paid in order to overcome the people's time-preference or liquidity-preference. But apart from the question of private property, interest has an independent justification. It can be shown that even the government of a socialist community will have to reckon a

rate of interest, at least for book-keeping purposes, mainly for two reasons. The government will possess limited capital resources which would have to be invested in the different industries. The productivity of the different industries, however, is not the same. Some will yield a return of (say) 10 per cent, while others would only give a 3 per cent. Since the socialist government would also try to get the maximum return from its capital, it must have a standard,—and would not invest capital in those industries which returned a rate below the standard rate. That standard rate is nothing but interest. The rate of interest therefore “serves as a screen by means of which capital projects are shifted and through which only those are allowed to pass which will benefit the future in a higher degree.*

Not only that but the socialist government would have to count interest if it wishes to advance the standard of life. Suppose previously all the labourers were employed in turning out consumable goods, so that the whole output was equally divided among them. In order to raise the standard of life of the workers, some labourers must be employed in turning out producer's goods, so that after a certain period, the use of the producer's goods would increase the volume of consumable goods. But for the present, the labourers who are turning out production goods must be supported by others. So the remaining labourers must give up a certain amount of their share of the consumable goods to them. Naturally their shares will be deducted by an equal percentage, which is nothing but interest. That is, the labourers must wait, and in order that they may enjoy greater incomes in the future, they suffer a temporary reduction of their incomes. This temporary reduction is nothing but the price of waiting, *i.e.*, interest.

Rent, Interest and Quasi-rent: In recent times, the distinction between rent and interest has been called in question. Income

No distinction between land and capital. from all kinds of property, including land, may be called either rent, or interest; ‘rent’ when regarded as a lump sum without reference to the value of the property, and ‘interest’, when regarded as a percentage of the value of the property. The distinction still persists in economic theory because land is regarded as different from capital. Therefore rent which was the return from land was something different from interest, the return from capital.

According to some critics,† there is no fundamental reason for placing land in a category separate from capital. Other goods, like iron-ore etc., are as much free gifts of nature as land is. Man appropriates these other goods, applies his own labour to change their shape, form etc., and thus makes them more valuable. Such is also the case with land. Man appropriates it, and must apply some labour before

* Henderson. *Supply and Demand*. P. 130.

† Cannan. *A Review of Economic Theory*. P. 246.

land can be made to yield its produce. The origin of things exercised no influence on their value. Secondly, the supply of other goods is as much fixed as the supply of land. "No doubt earth's surface cannot be increased, but this is a fact of the same nature as the fact that the different kinds of matter provided by nature cannot be increased." Thirdly, it is argued that there are no 'indestructible' powers of the soil. The chemical and physical properties of the soil are constantly worn out and have to be replaced like other goods. Lastly, the law of diminishing returns is not applicable peculiarly to land. It is equally true of machines and of other forms of capital. We prove the existence of a surplus from land by keeping the supply of land constant, while increasing the supply of labour and capital. Similarly, we can prove the existence of a surplus from units of capital, if we keep the supply of capital constant and vary the supply of other co-operative factors. We prove the existence of a surplus from the better class lands by arranging the supply of land in grades. So we can prove the existence of a surplus from machines, if we arrange them like land. Just as there is a no-rent land, so there are "machines and tools on the way to the scrap heap; buildings that are barely worth preserving." These are no-interest machines, and on machines of a superior type, we enjoy a surplus. The rent-analysis can thus be applied to other agents also.

Therefore no essential distinction should be made between rent and interest. The value of land is determined in the same way as the value of capital. The value of a piece of land is arrived at by capitalising the rent from that land, while the value of capital goods is also determined by capitalising their income. Moreover, the businessmen, in seeking different fields for investment of their resources, do not make any fundamental distinction between land and capital. They will invest indiscriminately either in land or in machines and labour, if that will increase their profits. Hence the distinction drawn between rent and interest by the economists "finds no response in the world of affairs."

Economists, like Marshall, who make a distinction between rent and interest, agree with these critics that there are many similarities

between land and capital. The difference between land and capital is that of degree only.

The difference between land and capital is that of degree only. The difference between land and capital is not one of kind, but of degree. Though other goods are also free gifts of nature, they are not free gifts in exactly the same sense as land. "Changes in the demand for land in either direction are thus likely to affect its price in a much greater degree than that in which the price of an ordinary commodity will be affected by a corresponding change in its demand."* A decrease, or increase of demand for land may cause its price to fall or to rise to any level, while such a change in the demand for a commodity will

* Henderson. *Supply and Demand*. P. 85.

not, in the long run, cause its price to remain above its normal cost of production. The scarcity of land is a normal and permanent characteristic, while the scarcity of other goods is temporary and exceptional. Regarding the application of the rent analysis to machines, it is pointed out that if we assume full and free competition, all employers will adopt the best types of machinery, so that there would be no room for the emergence of surplus from any machinery. Whereas, in the long run, competition will not annihilate rent.

The distinction between rent, interest and quasi-rent therefore depends on two factors,—elasticity of supply and the element of time.

Rent arises where the supply of a factor is inelastic both during the short and the long periods. Income from goods is called quasi-rent when the supply is inelastic during short periods, but elastic during the long period. The term, 'interest' is applicable to the incomes from those goods whose supply is elastic, i.e., freely extensible, both during the short and the long periods. Rent therefore, is the income from land and other natural resources; quasi-rent from man-made appliances and other fixed or old capital goods; and interest from free or floating capital. Marshall* illustrates this distinction by an appropriate example of a shower of meteoric stones harder than diamonds. Suppose, in the first instance, that there has been a shower of such stones as will cut every material, their possessors will enjoy a differential surplus from the employment of these stones,—the surplus bearing no relation to their cost of production. This is of the nature of rent. Next suppose that all the stones have not been picked up, but a diligent search will increase the supply. If, in the short period, the demand for the services and therefore the value for these stones rise, people will conduct a laborious search for these stones, until their supply increases to such a level that the return from them is just equal to the normal reward for the labour and capital involved. Income in this case is of the nature of quasi-rent. Suppose, next, that there are constant showers of these stones. So the possession of these stones will not entitle one to enjoy a differential surplus either in the short or in the long periods; for any one can have them. Income, in this case, will be of the nature of interest.

Rent, interest, and quasi-rent therefore shade into each other. The difference between them is only one of degree. But this difference of degree is so fundamental as to constitute, for scientific and practical purposes, a difference of kind. "Interest on artificial capital, as settled under competitive conditions, presents different social problems from those presented by the rent of natural agents."† The distinction is of special importance in matters of taxation. Economic interest cannot be taxed without causing adverse effects. The supply of capital would

* Marshall. *Principles*. Pp. 415—421.

† Taussig. *Principles of Economics*. Vol. II. Ch. 47.

then decrease. But economic rent can be taxed, and completely appropriated by the state without affecting the supply of land. Hence "the rent of land is seen, not as a thing by itself, but as the leading species of a large genus; though indeed it has peculiarities of its own which are of vital importance from the point of view of theory as well as of practice."[†]

[†] Marshall. *Principles*. Preface to the 1st Edition. P. VIII.

CHAPTER 27

WAGES

Nature of Wages: We shall now consider how the share of national dividend which accrues to labour is determined. Wages are the remuneration paid for the services of labour. Wages, however, differ in some respects from interest and rent. There is a pure rate of interest which is the same in a market. There is no such thing as a pure rate of wages. Wages vary from man to man and from place to place. Interest is homogeneous; wages are heterogeneous. Wages also differ from rent. Rent varies from a sum little above zero to a huge amount. The degree of variation for wages is not so great. Wages cannot fall down below a certain minimum, which is necessary for keeping a man fit and alive. Moreover, there is another distinction between rent and wages. While the general rate of rent is unmeaning, a general rate of wages is not unmeaning. There is a general wage rate in the sense that it varies comparatively little as between a substantial minimum for the bottom grade and a not very much greater return for the higher grades of those labourers whose numbers are of importance. We may speak of a general rate of wages in another sense as we speak of a general level of prices. As general prices may be high or low in the sense that most of the prices are high or low, so we can speak of a high or low general rate of wages in the sense that wages for most grades of labourers are high or low in terms of money. Wages therefore differ both from rent and interest.

Peculiarities of Labour Supply: Labour is a commodity sold and purchased, like any other commodity, in the labour market. Yet it is a peculiar kind of commodity.

The first peculiarity is that while labour is a commodity, the labourer is not, and he is not bought and sold like machinery and other material agents of production. *The labourer sells his works, but retains property in himself.* A commodity is produced for the sake of the utility that it yields. The producer expects a reward for its production. The supply of human beings is not due to any such consideration. Commodities are produced for some specific ends, whereas human beings are ends in themselves.

The second peculiarity of labour is that it is inseparable from the labourer. A commodity is separable from its owner and as such may be used in any place wherever required. The owner of a commodity may sell it wherever he finds a market. But the labourer must accompany

his labour everywhere, and this is not possible in many cases. Thus labour is more immobile than any other commodity.

The third peculiarity of labour is that it is highly perishable. If commodities are grouped in order of their perishability labour would come easily the first. An hour not worked is an hour lost for ever.

From the third peculiarity follows another. As labour is perishable and as most of the labourers are poor, the labourer must sell his labour immediately at whatever price he can get, or he has to starve. The labourer is therefore at a disadvantage in bargaining with the capitalist. The labourer cannot hold out for long; he has often got to accept any wage however low it might be. The seller of a commodity may hold it back when he does not get a fair price, but the labourer cannot do so on most occasions.

A fifth peculiarity of the labourer is that he may work or not as he likes. A commodity gives its service unbidden. A slave or a beast of burden responds to the lash. But a labourer will work less when harshly treated. Man is a volitional agent. He wants rest and holidays.

✓ **Real Wages and Nominal Wages:** The employers pay a certain sum of money per week or month or per piece to the workers. This sum represents the nominal or money wages that a labourer receives in return for his labour. But money is only a medium of exchange which is wanted because it enables one to purchase goods and services. Hence it is customary to distinguish between *money wages* and *real wages* which consist of things which the labourer can buy with his money wages. Real wages thus refer to the amount of necessities, comforts, and luxuries which the labourer can obtain in return for his services. They depend on a variety of factors besides money wages.

✓ **Factors determining real wages:** (1) The first factor of importance determining real wages is the purchasing power of money. Every labourer is of course paid in rupees, annas and pies. But no body can eat or drink money. And the real remuneration obtained by him depends upon how much a rupee will buy in the market. Money wages may be high in a country, yet it may mean no real advantage if the price level is also higher in that country than in another. In new countries money wages are higher than in old countries but the difference in real wages is not so marked. The general purchasing power of money is best gauged by the use of the index numbers.

(2) The form of payment is also a factor in the determination of real wages. Though a labourer is generally paid in money wages, he may yet receive some additional payments in kind. A fisherman may obtain a free supply of fish; an agricultural labourer may often get cheap or free supplies of rice, milk, etc. These are to be reckoned when determining real wages. Many services are pensionable; in determining real wages we have to make allowance for such pensions.

(3) The length of the working period is also another factor in the determination of real wages. The number of days in a week, and the total number of working days in a year are all to be reckoned. Two labourers may earn equal money wages, but one of them may be normally unemployed for a number of months in the year. Hence the real wages may be different when we take into account the actual number of hours worked.

(4) The nature of employment is another important factor. If the work is such that it reduces the longevity of the worker, as for instance that of a railway engine driver or a blast furnace worker, then though the nominal wage is high, the real wage is low. Further, a work may be dangerous and the worker may get maimed or crippled. In such an occupation, the aggregate period of working life is considerably shortened and hence also the total real wages. Pleasantness and social standing of an occupation may induce a person to accept lower wages. In computing real wages we have to take these into account.

(5) The possibility of extra earnings has also to be counted. If the number of working hours in any occupation is few, the worker may earn something extra in other subsidiary occupations. To take an illustration, teachers may augment their income by writing in the journals.

(6) Regularity of employment of the worker is a factor in determining real wages. When the employment is for the whole year, though at low wages, it may compare favourably with another occupation where, though the wages are high, the employment is for a part of the whole year. Masons are not employed throughout the year; agricultural labourers do not find employment throughout the year.

Prospects of success, and of promotion in the future and good treatment by the employer may induce workers to accept lower wages than those obtainable elsewhere. The distinction between money wages and real wages is important when we want to compare the earnings of labour at different periods and places. The labourers are well off not because money wages are high, but when real wages are high.

How wages are determined

The Subsistence Theory: This theory of wages owes its origin to the Physiocratic School of France, which flourished during the eighteenth century. The German economist, Lassalle, christened it as the Iron Law Wages or the Brazen Law of Wages.

According to this theory, wages are settled by a bargain between employers and labourers. The masters being few in number can combine and dictate wages, whereas labourers having no reserve have to accept whatever wages they are paid. But the wages cannot fall below the subsistence level—the subsistence level being the level which just maintains the worker and his family. If it falls below that level, the workers will not be able to marry and to maintain families. After

a generation, death would reduce the number of workers,—there being insufficient births to fill up the gaps caused by death. The supply of labour will fall short of demand and the level of wages would go up. It cannot rise above the subsistence level. If it does so, the labourers will marry early and the number of workers will increase. The supply being greater than demand, wages will again fall to the subsistence level.

It is evidently based on the Malthusian theory of population. It is erroneous, as it argues, that an increase in wages will necessarily mean an increase in the birth rate. This assumption is false as has been pointed out previously. An increase in wages may be generally accompanied by a rise in the standard of living.

*The theory is based on Malthusian theory of population.

Another criticism which may be advanced against the theory is that with few exceptions the subsistence level is more or less uniform for all classes of workers. Hence the theory cannot explain the differences of wages among the different classes of labourers. Lastly, it lays emphasis on the supply side of labour, and the demand for labour which is also an equally potent factor in determining wages has not received consideration in the theory.

The Standard of Living and Wages: The idea of a subsistence level was abandoned towards the second half of the nineteenth century and in its place was substituted the idea of 'standard of living'. The underlying idea of this theory was that wages tend to conform not to the subsistence level, but to standard of living to which a class of labourers was habituated. The standard of living is considered to be the fundamental cause determining wages. Not only must a group of labourers receive as wages what are sufficient to maintain the worker and his family, but the wages must be such as to keep the labourers in that standard to which they are accustomed. It is virtually a modification of the subsistence theory of wages. Standard of living means much more than mere subsistence level. It means not only the necessities of life, but a possibility of receiving a certain amount of education, of obtaining a certain amount of comforts and leisure at regular intervals.

Interpreted in a sense the theory may be true. There are two ways in which the standard of living may affect the level of wages. First, "an established standard of living will cause workmen to stick more stubbornly to a demand for what they regard as decent wages." But it should be pointed out that the wages cannot be maintained by these means at a point above the marginal worth of the labourers. Secondly, the standard of living may affect wages by affecting the marginal productivity of the workers. This it can do in two ways. It is well-known that a close correlation exists between the standard of living and the efficiency of the workers. A higher standard of living which enables workmen to have more nourishing food, better homes, freedom from worries, etc,—increases their efficiency to a large extent. Thirdly,

the standard of living may influence the marginal productivity by setting a limit to the number of population. If the wages do not cover the standard of living, the labourers may be unwilling to marry and have children. The supply of labour in that group will fall off; as a result its wages would rise.

But, if the theory means, as some of the upholders of the theory would have us believe, that the standard of living is a *direct cause* in determining wages, then the theory may be subjected to a number of criticism. First, the standard of living is but one of the conditions determining a higher rate of wages, the others are a high productivity of industry, improvement in the arts, increasing capital, etc. Secondly, a high standard of living and a high rate of wages are mutually interdependent. As a high standard of living may cause high wages, so also high wages are a condition precedent for maintaining a high standard of living. Thus there is arguing in a circle. Thirdly, Cannan argues that the history of civilisation is a history of the gradual rise of the earnings. The upholders of the theory cannot argue that the rise in wages takes place because the standard rises, since the essence of the idea of a standard is something that the workers have become accustomed to from habit. Lastly, the theory takes no account of the demand for labour and its influence in determining the remuneration of labour. It is a purely supply theory and as such is one-sided.

To conclude, the theory may be accepted as true with some qualifications. The influence of standard of living on wages is mainly indirect. It is direct in so far as the standard of living increases the efficiency of workers and thus the productivity of the industry as a whole and in so far as it can increase the bargaining power of the worker.

Residual Claimant Theory: According to Walker, the worker is the residual claimant of the products of industry. Wages, according to him, equal the whole product, minus rent, interest and profit. Rent, interest and profit are determined by their own laws. But as there is no specific law by which wages are determined, the workers get what remains after deducting rent, interest and profit. If, by the increase in the efficiency of the workers, the product increases, they would get more as wages. The hopeful feature about this theory is that it is not so pessimistic about the future of labour as the subsistence theory. This is essentially a productivity theory inasmuch as it holds that labour gets wages out of its own products, *i.e.*, from its own contribution to the national dividend. The more the worker produces, the more will be obtained by him.

But this theory is defective inasmuch as (a) it cannot explain how the trade unions by combining labourers can raise wages from time to time; and (b) secondly, it takes no account of the relative scarcity and abundance in the supply of labour in relation to its demand and the influence of the supply side in determining the prices

of labour. (c) Thirdly, if you can explain rent, interest, and profits by the help of supply and demand theory or a marginal productivity theory, wages can also be similarly explained.

Wages-Fund Theory: Based on an idea of Adam Smith, the Wages-fund theory reached its full development at the hands of Mill. "Wages," according to Mill, "then, depend upon the demand and supply of labour; or as it is often expressed, on the proportion between population and labour. By population is here meant the number only of the labouring classes, or rather of those who work for hire; and by capital, only circulating capital, and not even the whole of that, but the part which is expended in the direct purchase of labour." The wages-fund, or the part of capital spent in the direct hire of labour was fixed, being the result of saving or accumulation in the past period. This fund constituted the demand for labour, and the average rate of wages was determined by dividing the fund by the number of workmen. Hence it follows that if the general rate of wages is to rise, either of the two things must happen;—the fund must increase, or the supply of labour must diminish. But the increase of the fund is rather a slow process, because savings increase slowly. Hence came the natural corollary that if labourers were to better their conditions, they must restrict the number of their children. Further, if any group of labourers succeeds in exacting higher wages, the only result will be that other labourers would get less.

The theory was attacked by Longe and Thornton, and it was latter's criticism which led to Mill's celebrated recantation of the theory. Later Cairnes tried, in 1874, to defend the theory. The demand of labour, according to Mill, is contributed by the amount of circulating capital. Hence it followed that the *demand for commodities was not demand for labour*. That is, when people buy commodities, they spend money; whereas the demand for labour comes out of a part of their savings embodied in circulating capital. The statement was unhappy. The demand for labour is a *derived demand*, i.e., derived from the ultimate demand for the commodities. When the demand for commodities is high, employers expect brisk trade, and offer more employment to labour. Conversely, when the trade is bad. Moreover when people spend the whole of their income, labour is engaged in turning out finished consumable goods. When people save and invest, labour is engaged in making producer's goods. Hence the difference between spending and investing is only a difference in the direction in which labour would be employed. In the long run, of course, had people saved and invested more, the supply of tools, machineries, factories, etc., would have been increased and improved. This increase in the aids to labour would have augmented the productivity, and hence the wages of labour. That is perhaps the only truth in this very circuitous statement.

But the most fundamental criticism against the theory is that the amount of the wages-fund was not fixed and predetermined, except in the very short period. The fund may be conceived either as a stock of money, or as a stock of goods. The volume of money in a country is a highly elastic fund, being dependent on the expectation of profit or loss, and on the policy of the banks. When trade is brisk, and the employers expect good profit they would lay out more sums in hiring labour. Conversely, when trade is depressed, the process is slowed down. Similarly, the stock of goods destined for labour, or the volume of circulating capital is not absolutely fixed. The stock of goods may be fixed for the time being, in the sense that the food-supply that is required for the subsistence of labour is more or less fixed during a season. But it is not fixed for all times. Similarly, the volume of circulating capital is a highly elastic fund, varying quickly as a result of the activities of the investing public, according as they find it more attractive to invest and so advance as capital a larger part of their present incomes, or to spend a larger part of their incomes on "a Rolls Royce; or an extra month on the Riviera." So the wages-fund is a highly elastic fund. Its actual volume depends on the very prospect of employing labour profitably. The truth is that the amount which the labourers can draw out of the fund depends on what they themselves put into it, as well as on the competition of the employers. If labour is highly efficient, the national dividend will be higher and the share going to labour will be higher.

✓ **Marginal Productivity and Wages:*** The modern theory of wages is an application of the fundamental principles of the theory of value to labour. Just as the value of a commodity tends to equal its marginal utility to the individual, so given the supply of labour, its wages will tend to equal the marginal productivity of one unit of labour to the employer. The marginal produce of one unit of labour is determined by adding to, or by withdrawing one unit of labour from a business, provided the supply of other co-operating agents is kept fixed, and the business is organised in the most economical manner in all cases. Assuming no change in the supply of the other co-operating factors of production, and no change in the price of the product of labour, the employment of more and more units of labour in a firm will increase the product at a diminishing rate. The employer will go on adding more and more units of labour; the productivity per worker diminishes, until a point will come when the increase in the product due to the employment of the additional unit of labour is equal to the wages paid to the worker. That unit of labour is the marginal unit, and since all units are, by hypothesis, of

Wages equal the marginal net product of labour.

* See before, Chap. 24.

equal efficiency, its rate of wages will settle the rate paid to every other unit. If the wages are above the marginal net product of labour, the employers will curtail the employment they offer to labour. Similarly, if the wages are below the net product, the employers will bid more for the services of labour. Hence in order that equilibrium may exist *i.e.*, in order that business may neither expand, nor contract, wages must be equal to the net product of the marginal labourer.

It should be clearly understood that the marginal labourer is not necessarily an inefficient labourer. He is a "worker of normal efficiency whose additional output repays the employer with normal profits (of course after paying wages), and no more." He is marginal in the sense that the addition of him to the labour force equals the supply of labourers upto the number which the employer considers worth employing at the current rates.

Of the many criticisms advanced against the theory (discussed elsewhere),* the most serious is that it fails to take account of the influences acting on the supply-side. A wage is not merely a price paid for a factor; it is also the income of a labourer and as such, reacts on his efficiency. Wages must not only be equal to marginal product of the labourer, it must also be adequate to support his standard of living. If the wages do not cover the standard of living of the workers, then either the standard will be lowered, in which case the efficiency will suffer, and the marginal net product will fall. Or the birth-rate will decline, the supply of labour will fall, resulting in an increase in the marginal net product. Hence we cannot ignore the reactions of payment of wages on the supply side.

It should be noted that the theory is a static theory. It states that in the long run there is a tendency for the rate of wages to

Wages and imperfect competition.

become equal to the marginal net product of labour. But it does not say that wages will actually reach the standard. In order to bring the theory in touch with realities, we must make suitable allowance for the other things that we assume constant. In real life, competition in the labour market is seldom perfect. Masters are everywhere in a sort of tacit combination as against labourers. As the market for labour is imperfect, the actual wage-rate will be below the marginal net product of labour. We should take account of the improvements in industrial technique and organisation, because these have been the principal sources of increase of wages. We must also take account of the influence of the simultaneous increase in the supply of other factors, notably of capital, which is after all the normal case. Hence the theory takes many things as constant. It does not, therefore, furnish a complete explanation of wages. It merely "throws into clear light the action of *one* of the causes that govern wages."

* See before, Chap. 24.

"Wages stand for the marginal discounted product of labour": This is Prof. Taussig's theory of wages. He would not accept the specific or the marginal productivity theory; for, in his opinion, there is no specific product ascribable either to labour or to capital. There is a joint product,—the fruit of the co-operation of labour and capital. From this joint product, it is impossible to isolate the separate contributions of each of the two factors. He would go further and say that capital was itself not a separate factor of production. It was the embodiment of past labour. These fruits of past labour—the capital-goods—are owned by a separate body of persons,—'capitalist-employers' as he called them. Capital is thus congealed previous labour. Though organisation was a separate factor, its reward "are best regarded as simply a form of wages".* Hence the same principles would determine the rewards of past as well as present labour, hired as well as independent labour.

Now, labour, past and present, hired and independent, in co-operation with each other produces a joint output on the marginal land, *i.e.*, land on which no rent is paid. What is meant by marginal output? Since the marginal land, for economic purposes, makes no contribution to the output,

this output he calls the "marginal output" of labour of all kinds. The marginal product can be measured in two ways. It may be the output produced by some specific unit of labour. It can be definitely measured,—"you can put your finger and say, here it is". This is called the *discrete* margin. The other type of marginal product is called "conceptual". It is the addition to the total output made by "anyone of a number of units, yet from no particular one". (When a group of workers is employed in a factory, the total output is increased. But we cannot demarcate the specific product turned out by each labourer. We cannot put our finger on the actual things produced by the worker. But we can measure his marginal output, *i.e.*, the addition made to the total product as a result of employing one worker. The labourers

cannot get the full amount of the marginal output. Why is the output discounted? For, production takes time. Labour is a future good in the sense that by employing labour, one cannot get the final product immediately, but only after a period of time. In the meantime the labourers must be supported. It is the function of the capitalist employers to support the labourers by giving them advances. They cannot therefore hand over the full amount of the output to the labourers. They would deduct a certain percentage from the final output on account of the advances they have made, and hand over the rest to labour. This deduction, or discount takes place at the current rate of interest. Thus

* *Principles*. 3rd. Edn. P. 164. Also see P. 131. "The theory of wages should consider the remuneration of every sort of labour.....of such independent workmen as well as.....of a hired labourer."

wages are equal to the total product of labour on the marginal land minus the amount discounted on account of the advance.) ✓

Such is then Taussig's theory of wages. He himself sees two difficulties in his theory. *First*, it is "a dim and abstract one, remote from the problems of real life." But, as he himself states, it is no special defect of his theory. All theories of wages—nay, all economic generalisations suffer from this fact. *Secondly*, to come to the more serious objection, the joint product is discounted at the current rate of interest. But according to him, interest depends simply on the excess of what the labourers produce in the future over what is advanced to them in the present; hence "the rate of interest would result from the process of advances to the labourers." But the rate of wages and the rate of interest are determined from the same process of advances. Hence if we assume the rate of interest, we know at the same time the rate of wages. To determine wages by discounting at the current rate of interest would be thus arguing in a circle. He meets this difficulty by arguing that we can determine the rate of interest by the rate of time-preference independently of the marginal productivity. And with the interest thus determined by time-preference, we can discount the marginal product of labour. But this solution of difficulty is merely evading the issue thus raised.

Taussig has been criticised on the ground that he is inconsistent. Since he himself states that we cannot determine the marginal product of labour, then how and what would we discount? But this misconceives the true meaning of his theory. Though he used the expression 'marginal product of labour', he did not mean by it the specific product ascribable to labour. He merely meant the joint product of labour, past as well as the present, determined at the margin of cultivation, where there is no rent. He used the expression 'marginal' only to exclude any rent element, or any exceptional profit, or monopoly gains.

His theory is residual claimant theory. That is, it states that after rent, interest and profits are deducted from the total output, the remainder goes to labour as wages. As such, it suffers from all the defects of the residual claimant theory.

But the great defect of his theory is that it fails to take account of the influences that determine the supply of labour. It takes the supply of labour to be fixed, and then determines its marginal product. In this respect, the theory marks no advance on the marginal productivity theory of wages.*

* According to Mr. Hicks, this theory can be held valid if we assume that the period of production is variable. Now one of the factors of production which is necessary to co-operate with labour is circulating capital. Taussig's difficulty arises from the fact that he assumes the period of production as constant. If then, the amount of labour slightly increases, there must also be some increase in the amount of circulating capital, even though other factors are kept constant. Hence the cost of this additional circulating capital must be deducted, i.e., discounted

Differences in Wages: The usual theories of wages deal with the factors that determine the general rate of wages. They do not take account of the fact that the rates of wages vary greatly from occupation to occupation. What is the explanation of these differences in wages?

As before, let us start with the assumptions made in the theory of wages; labourers are equally efficient, and that there is full and perfect competition among them, so that the choice of occupations is free, any worker can enter any profession he likes. Will there be any difference of wages under these assumptions? Certainly, and due to the following reasons, which were stated by Adam Smith in an admirable chapter of his book.

(a) Agreeableness or disagreeableness of occupations. Wages in a disagreeable occupation must be higher than those in an agreeable occupation, otherwise no one would take to the former. "The most detestable of all employments, that of public executioner, is, in proportion to the quantity of work done, better paid than any common trade whatever."

(b) The ease and cheapness or the difficulty and expense of learning it. Some occupations require a longer time to learn, and a much more expensive course of instruction than others. Earnings in such employments must be higher than those in others which require less or no training. For unless the remuneration is higher, no one would spend money and time in learning these trades.

(c) The constancy or inconstancy of employment. If work in any occupation is intermittent, the rate of wages must be higher than in occupations where work is constant. In the former occupations workers have to remain idle on occasions, and wages earned during the working period must be high enough to leave a surplus with which they could maintain themselves during the idle period.

(d) The small or great trust which must be reposed in those who work. "The wages of goldsmiths and jewellers are everywhere superior to those of many other workmen.....on account of the precious materials with which they are entrusted." The salaries of managers of corporations are said to be high because they accept heavy responsibility.

(e) The probability or improbability of success. Where there are chances of total failure, the rewards correspondingly must be high enough to cover the risk of failure. But if the occupation holds out hopes of a few great prizes with the coveted distinction of a conspicuous position in the public eye, it usually attracts competitors in such

from the marginal product. But there is no reason why we should suppose that the period of production is constant. If more labour is then associated with the same amount of circulating capital, the period of production will be shorter. And the additional product need not be discounted as no extra circulating capital is required. Thus it is perfectly correct to explain wages by the theory of discounted marginal productivity. See Hicks. *The Theory of Wages*. P. 17 footnote.

large numbers that the average remuneration may be very low. The best example is that of law.

These are the causes of differences in wages, if all labour is of equal efficiency, and if there is perfect mobility of labour. But all workers are not equally efficient. And some are endowed with great native ability; a much larger number can attain to moderate proficiency; while there are others whose ability is of the lowest type; wages, therefore, would be different, depending upon the ability of the workers.

The assumption that there is perfect mobility of labour, that the workers can enter any occupation is certainly far removed from actual life. Mobility between the different occupations is very imperfect. And this explains the apparent anomaly that the most dirty and disagreeable work, instead of being better paid than others, is invariably paid very low wages.

The obstacles to free movement of labour from one occupation to another are mainly due to the presence of non-competing groups of workers. The society is divided into several fairly distinct groups. A rough examination of labour and wages.

would divide the society into five such groups. The lowest group comprises the common day-labourers. This group is characterised by lack of special skill and special training. It does most of the heavy manual labour, or operates very simple mechanical devices. The second group is composed of the semi-skilled workers, who, while not needing much skill and training, yet bear some responsibility, and must have some alertness of mind. To the third group belong the skilled workmen and the upper group of clerical workers and salesmen. In this class are the expert carpenters, electricians and the like. To the fourth group belong the middle class people. The highest group is that of the professional men and business executives. To this class belong engineers, accountants, lawyers. These various groups are non-competing in the sense that those born or placed in a particular group usually remain there and do not compete with other groups. The barriers between these groups are not impassable; yet these are barriers which only the ablest can pass. The barriers are mostly due to three causes: expenses of training and education, the subtle influence of environment, and differences in inborn gifts. People in the lower groups cannot afford to meet the expenses necessary for learning one of those higher trades. The influence of environment, the force of example and limitation, the family atmosphere—all tend to keep a youth in the occupations to which his parents belong. The children of labourers generally inherit a low capacity; their early training and education are not much; and they have also fewer opportunities. On the other hand, the children of the higher income groups inherit in general great capacity; they get more expensive training and education, and their opportunities are better. The individual belonging to the lower groups may attain to higher groups if

he has got more than ordinary ability, if he has been carefully trained, and if his opportunities of learning the higher paid occupations are good. Such a combination is rare. Hence the higher the social group, the less crowded it is, and its earnings are correspondingly higher. The presence of the non-competing groups is one of the main explanations of differences in wages.

Why wages of women are lower? Women as a class get lower wages than men. What is it due to?

One cause of lower wages is that they possess, in general, less physical strength and endurance than men. Another cause is that most of the girl workers are not permanent workers. They do not generally take to any profession for good, but only for a limited period, and look forward to marriage. So they take up that sort of work which can be quickly learnt.

But the most important cause of lower wages is that very few occupations are open to women. Choice of occupations is not free for them. Custom and lack of training also have shut them out from many occupations. And in those occupations, which are open to women, there is consequently a relative oversupply of workers and hence lower wages.

Lastly, it should be noted that women have weaker bargaining power. They are mostly temporary workers, and they have evidently smaller responsibility for dependents, since they have not, except in unusual cases, to support a family. Hence they are not easily organised into trade unions. They, therefore, get lower wages than men.

CHAPTER 28

SOME LABOUR PROBLEMS

Trade Unions: We have already commented on the peculiarities of labour supply. Labour has no reserve, and like time, it will not keep. If the labourer withholds his labour it is lost for ever. He has no power to wait. He must work or starve. He is not in a position to hold out in the hope of exacting a fair price for his labour. Moreover, he has generally an inferior knowledge of the market conditions or of the prospects of trade. He is therefore at a great disadvantage in bargaining with his employer. The trade union is an organisation which puts him on a footing of equality with his employer as regards bargaining strength.

A trade union is, according to the classical definition of Sydney and Beatrice Webb, "a continuous association of wage-earners for the purpose of maintaining or improving the conditions of the employment." The functions of a trade union are therefore to maintain the position and conserve the advantages already gained by the workers and secondly, to attempt to advance the cause of the trade unions. It is a *militant organisation* designed to fight the cause of the worker. It is also a *ministrant association*, a benefit organisation, providing sickness and accident benefits, supporting the worker when he is temporarily out of work.

Trade unions and wages: The main concern of the trade unions is still with the question of wages. Originally it was thought, especially by the labour leaders, that the trade unions helped workers to obtain higher wages. They neutralise the bargaining weakness of the wage-earners and enable them to exact higher wages from the employers. On the other hand, it was argued by the classical economists that the trade unions could do nothing towards increasing the level of wages. If the wages are maintained at an artificially higher level profits will shrink; savings will fall off and businessmen will be unwilling to continue in business any more. As a result, the rate of wages will fall.

Trade unions may affect the general level of wages in two ways. First, they help the workers to obtain the full value of their marginal

Can they raise the net products from the employers. Under general level of wages? perfect competition, the rate of wages will tend to equal the marginal net product of the labourers. But competition is seldom perfect in the labour market. The weak bargaining power of the worker makes it improbable that

in all cases he will get his true marginal worth. The trade unions will correct his bargaining weakness, and so enable him to raise his wages to the level of the full value of his marginal net product. Secondly, trade unions may help in increasing the marginal productivity of the workers. It should be noted that the marginal productivity of labour depends also on the efficiency of the employers, *i.e.*, on the proportion in which labour is combined with capital, natural resources and other agents of production. The efficiency of the different employers is different. There is therefore always the possibility of increasing the productivity of labour by screwing up less efficient entrepreneurs to the level of the more efficient. In this way they may be successful in driving up the general rate of wages. A fall in the rate of profit on invested capital may induce businessmen to continue longer in business, or to put forth greater enterprise and efficiency so as to lead to a general improvement in the organisation and management of the whole industry. The trade unions may alter the marginal productivity of labour indirectly by influencing efficiency of the wage-earners. They may foster habits of sobriety, honesty, etc., and help the younger generation to acquire industrial skill. As the efficiency of the workers increases, their marginal product and wages will also rise.

Lastly, a trade union may be able to increase the marginal productivity of a particular group of labourers, by suitably restricting its supply. The conditions under which it will

Or of a particular group? be able to do so have already been stated in our discussion of the case of joint demand.

First, the demand for that group must be inelastic. In other words, the success or the failure of the trade union will depend on the elasticity of substitution. The more easily the employers can substitute that kind of labour by other resources (say by substituting machines for labour) the less will be the power of the union to force its demand. Secondly, the demand for the commodity which that group helps to produce must also be inelastic; thirdly, the total wages of that group must form a very small part of the total costs; and fourthly, other factors are 'squeezeable'. If any of these conditions is fulfilled, a particular group may be in a position to raise its wages. But in the long run, it is doubtful whether it will succeed in its purpose. The high cost of employing labour will induce the employers to search for substitutes, or to invent machinery for doing the work done by that group. The demand for labour will fall off, and so also its rate of wages.

Right to Strike: The main fighting weapon of the trade unions is the strike. Just as the employers can terrorise the workers by the threat of discharge, so the trade unions can force the hands of the businessmen by their threat of strike. The right to strike is therefore the counterpart to the right of discharge.

"A strike is a concerted withdrawal from work with the design of securing return to the same employment under better conditions than

are offered at the time by employers." The aim of the strikers is to go back to their old jobs again at their own terms. Around the question of the right to strike, a great controversy is still going on. In private employments, there is no doubt that the workers should possess full freedom of going on strike when they think that the conditions of employment are unbearable and the employers are adamant with regard to the claims of the workers. But what about the right to strike in public and quasi-public industries? It is argued that a strike and the consequent cessation of work in one of the essential public services, like the railways, water supply, etc., cannot be countenanced by the community. There is no doubt that the community is entitled to see that the operation of the vital industries is not paralysed. In return, it must guarantee to the workers reasonable conditions of employment. It must open up effective channels through which the grievances of the workers will be given proper hearing and properly redressed. It must organise, if possible, joint committees, or work councils composed of the representatives of workers and employers so that the former would have a voice in the determination of the conditions of work. The right to strike is not an inherent right, but a right limited by the greater right of the community.

Agencies for Industrial Peace: The evil effects of strikes and the losses they entail both upon employers and employees are obvious. Is it not better, on the principle that prevention is better than cure, to organise business relations in such a way that the necessity of strikes is minimised? Among the schemes that have been suggested as remedial measure the prominent are profit-sharing, sliding scales, and work councils.

(a) *Profit-sharing:* It is a method whereby the employees receive a portion of the profits of any business concern. The surplus that remains after deducting the expenses of a business is shared between employers and employees either in proportion to fifty-fifty, or in proportion which the total interest bears to the total wages. Sometimes, the shares of workers are not handed over to them directly, but invested in the business to the account of the workers.

Much was at first expected from this scheme. It was thought that it would bind the worker more closely to the firm; that it would improve business relations, and minimise industrial disputes; that it would provide a greater incentive to the labourers to increase their output, not to waste materials and to be more careful about the machinery. In this way, the output will increase to the benefit of the employers, employees and the society. But these expectations have not materialized. It has not prevented strikes from occurring. It is disliked by the trade unionists because it is usually adopted with a view to weaken the trade unions and to wean away the workers from their

unions. Moreover, it is argued that profit-sharing must involve loss-sharing. Profits do not always depend on the efficiencies of workers and employers, but on other factors as well. For example, a slight fall in the price may wipe out the profits altogether. Since the workers are paid a share of the profits, they must also take a share of the losses too. The prospect for the widespread development of methods of profit-sharing is not therefore very great.

(b) *Sliding Scales*: The essence of these schemes is that the rate of wages should vary with changes in the price of the product in accordance with a previously stipulated ratio. There is generally a basic rate of wages correlated with a basic price. If the price rises, the wages would rise by a given proportion. In this way the workers are made to share in the good and bad times of the business. There is generally a minimum rate below which wages shall not be allowed to fall. Sometimes, the sliding scale is based upon profit. If the profits rise above a certain percentage, the wages should also rise by a given degree. It may also be based on the cost-of-living index-numbers. If the cost-of-living rises, wages should automatically rise.

The sliding scales have been criticised on the ground that "there seems no valid reason why the wage-earner should voluntarily put himself in a position in which any improvement of productive methods, any cheapening of cost of carriage, any advance in commercial organisation, any lessening of the risks of business, any lightening of the taxes or other burdens upon industry, and any fall in the rate of interest—all of which are calculated to lower price—should automatically cause a shrinking of his wage." This shows the necessity for revising the basic rate of wages when the fundamental business conditions undergo changes. The adoption of sliding scales would remove some of the difficulties of the wages question.

(c) *Works Councils*: The essence of this scheme lies in the recognition of the claim of the workers to a share in the determination of the conditions of employment. It was first

Whitley Councils.

formulated in the report of the famous Whitley Committee of England in 1917.

First, works committees are organised in each firm, composed usually of equal number of representatives of workers and employers. Sometimes they consist only of representatives of workers with opportunities of ready access to the head of management. Regular joint meetings are held at which all outstanding questions are discussed. Secondly, Districts Councils are organised composed of the representatives of trade unions and of employers in the industry.

The Works Committees, also known as Whitley Councils, have tended to produce greater harmony between workers and employers. By associating the worker with some aspect of the actual conduct of business, they have tended to develop a greater sense of responsibility among the workers. Disputes seldom reach the breaking point, and are settled by voluntary discussion before they reach the breaking point.

Settlement of Disputes: But inspite of the best endeavours, industrial disputes will sometimes occur. Therefore some machinery must be devised whereby these disputes can be settled. The two outstanding methods are conciliation and arbitration.

(a) **Conciliation:** The essence of the scheme of conciliation is that the two parties to a dispute should come together, discuss and finally settle their disputes. Since it may be difficult to obtain the consent of the parties for the appointment of a Joint Board at the time when the dispute has already broken out, it is better to have Permanent Boards of Conciliation for the settlement of differences. In India, the Trade Disputes Act of 1929 gave the Government the power to appoint a Conciliation Board to enquire into any dispute on the application of one of the parties. Given sufficient goodwill on both sides, these Boards may prove useful.

(b) **Arbitration:** The central idea of the schemes of arbitration is that the disputes are referred to an outside authority for decision. Arbitration may be public or private. It may be voluntary or compulsory; *i.e.*, the parties may or not be obliged by law to refer their disputes to arbitration. Lastly, the decision of the Board of arbitration may not be binding upon the parties, or may be legally binding upon both.

If the parties privately agree upon referring their disputes to an Arbitration Board and upon abiding by its decision, much is gained thereby. There is also a vast gain for pride and temper; "it enables parties to withdraw without loss of pride from the bellicose attitude."

Under public arbitration, the government may simply appoint an *arbitration board* on the request of the parties, or may require both to refer disputes to a Board before any strike or lock-out. The Board first tries to bring about a settlement between the parties; failing, it conducts a thorough investigation into the disputes and publishes a report containing its recommendations. The recommendations may not be binding upon the parties. But it is urged that the pressure of public opinion will force the parties to accept them. In Australia and New Zealand the recommendations are binding upon the parties. A strike or a lock-out is punishable by fine or imprisonment. But it may be difficult to enforce such decisions in the face of the strong opposition of any group.

CHAPTER 29

PROFITS

The term, "profit" is usually understood to mean the difference between the total sale-proceeds obtained by a businessman and the total expenses of production. It is the surplus that remains in the hands of the businessman after paying rent, wages, interest on borrowed capital, etc. This profit is regarded by the economists as *gross profit*. It includes many things which, according to the economists, should not be classified as profits. Gross profits, or the difference between the total sale-proceeds and the actual outlay on capital, etc., includes:—(a) *rent on land*, owned by the employer himself, and the difference between economic rent and the actual rent paid in respect of other lands. A person may not always pay the full economic rent in respect of a land held by him, and his profits are thus swollen by such excess gains. (b) *Interest on capital*. The interest that the employer has to pay on the borrowed capital is usually deducted by him from his gross sale-proceeds before determining his gross profits. But he does not always deduct the interest on his own capital that he has invested in his business. (c) *The remuneration of the entrepreneurs as such*. The sum that remains after deducting the former two items is the proper income of the entrepreneur.

Even this income that remains after deducting the first two items is not regarded as profits by the economists. According to them, this

Earnings of management and profit.	income includes the earnings of management, i.e., the entrepreneur's remuneration for managing, organising and co-ordinating the work of the concern. This remuneration is equal to the sum which the businessman would have obtained, had he been employed in suitable work by some one else. Hence this income should be classed not as profits, but as wages. These earnings of management are best regarded as a part of the normal cost of production. Profits are the difference between price and the normal cost of production. This will be evident if we study the profits of a joint-stock company. In such a company, the actual work of managing and superintending the business is entrusted to salaried managers. The salaries of these managers are included in expenses. The profits that are distributed among the shareholders do not therefore include earnings of management.
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Profits are therefore the income which the entrepreneur obtains on the following counts. First, profits include some reward for risk-taking and uncertainty-bearing. One of the

<i>Elements in profit.</i>	main functions of the entrepreneur is to assume the risks of production. And for this risk-taking he gets some additional income. Secondly, profits include
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some income which the businessmen manage to secure either on account of their monopolistic control over the supply, or because of the existence of imperfect competition. In real life, every businessman is often able to secure some monopolistic or semi-monopolistic control over the markets. Hence he is in a position often to charge a slightly higher price than would be possible under perfect competition. He therefore earns some extra income. The existence of market imperfections may swell the profits in another way. Competition in the market for labour or for any other factor of production may, and is often, imperfect, as a result of which the employer is in a position to exploit the situation and pay those factors an amount of remuneration which is less than the values of their respective marginal net products. Thirdly, profits often contain large amounts of fortuitous gains. These gains arise from the good luck of certain enterprises. A sudden shift in demand may drive up prices, and so may bring large gains to the entrepreneurs.

Theories of Profit: The doctrine of profit is the most unsatisfactory part of economic theory. It is an elusive, uncertain income which defies attempts at definition. Various theories have been advanced to explain the nature of profit. We shall examine them one by one.

Rent theory of Profit: This theory was first developed by Francis A. Walker. He first introduced the distinction between a capitalist and an entrepreneur into English economic theory. The possession of capital is not the indispensable qualification of an entrepreneur. An entrepreneur is a person who only manages his business without advancing any capital.

According to Walker, profit is the rent of ability. Like the differences in the fertilities of the different grades of land, the abilities of the different businessmen are also different. There are entrepreneurs, like Ford, who belong to the ablest grade of producers. At the bottom, there are entrepreneurs who barely manage to cover their costs of production. And between these two

superior ability. classes there are infinite gradations of abilities.

Just as rent arises because of some differential advantage, either of fertility, or of situation, possessed by a piece of land, so profits arise because of some exceptional abilities or the exceptional opportunities of the entrepreneur. Like the no-rent or the marginal land, there is also the no-profit, or the marginal entrepreneur, who just manages to cover his costs of production by selling his output at the current prices. His abilities are marginal. Entrepreneurs of higher abilities earn profit, which is measured from the no-profit level. Hence profits, like rent, do not enter into the price of the product.

It should be noted that, according to Walker, the wages of management, i.e., the amount which the entrepreneur could have earned as a salaried manager in a competitive market, should not be included in profits. "Profits not in excess of wages we have agreed"

to consider no profits at all." Hence the criticism of Walker's theory on the ground that there cannot exist a no-profit entrepreneur, because everybody must obtain normal earnings in the long run is beside the point.

The theory may provide a measure of profit, but it does not provide an explanation of the nature of profit. The most serious criticism against the theory is that it overlooks the important function of the entrepreneur as a risk-bearer. From the profits of the entrepreneurs, we must deduct the losses sustained by the others who have been driven to bankruptcy. When this is done, there will be found no surplus element in profit, and the analogy to rent vanishes. Moreover, it fails to explain the profit of the ordinary shareholder of joint-stock companies. But the most fundamental criticism is that the theory does not even explain the main causes of the size of profits. The differential gain arises because of the scarcity of the superior units, either of land, or of the entrepreneurs. But the real thing is the explanation of the causes of the scarcity of the superior units. In the case of the rent of land, the point is not of great importance because the limitation is due to nature. But the analysis of the causes that limit the supply of the superior entrepreneurs will furnish the real key to the problem of profits. "Hence the rent theory of profits can throw no light on the fundamental questions."

Moreover, it cannot be said that profits do not enter into price. The reward for risk-bearing must enter into long-period cost of production. In the short period, profits may not enter into price. But in the long run, the supply of entrepreneurs being not fixed by nature, the normal profits must form a part of costs of production.

Profits and Wages: A large group of economists regards profits as the remuneration for the exercise of business ability. Taussig and Davenport are the two most prominent advocates of the theory. Profits, according to Taussig, "are best regarded simply as a form of wages." The businessman's income is extremely irregular, and is a surplus that remains after meeting the expenses of production. Yet it is not due to chance. Continued success is due to the possession of some qualities,—skill and ability in organisation and shrewdness in meeting risks. The reward for these qualities is profits, and rewards are analogous to wages owing primarily to two reasons. First, entrepreneur's activity as such is still a form of labour,—a sort of mental labour, marked perhaps by many peculiarities, among which the most striking are the risks and uncertainties. The barrister's and the physician's earnings are classed as wages, though the predominant elements in their activities are more or less mental,—shrewdness, judgment, etc. The entrepreneur's abilities are almost of a similar sort, and hence profits should be regarded as wages. Secondly, "salaried posts of management have a very wide range—foremen, superintendents, general managers, presidents. A

process of transfer is constantly taking place between the salaried ranks and the independent business managers. Both are affected by causes of the same sort." Hence the theory of wages "should consider the remuneration of every sort of labour.....of such independent workmen as well as.....of a hired labourer."

The theory furnishes both an explanation of the nature of profit, as well as a justification of profits. But it overlooks the real distinction between profits and wages. Wages are fixed and stipulated incomes; profit is an irregular, uncertain income.

There are at least three reasons why profits should be distinguished from wages. First, the most prominent function of the entrepreneur is the assumption of risks and uncertainties. The wage-earners have of course to assume some risks. The industry for which they have been trained may be declining, and so they may lose their jobs. But the risks of the businessman are much larger in number and greater in intensity than those of the workers. Secondly, the element of chance or fortuitous gains forms a greater portion of profits than of wages. In other words, the true earnings of effort form a very large part of wages, and often a small part of profits. Lastly, profits are often swollen due to the imperfections of competition, whereas imperfect competition often tends to depress wages below the marginal net product. Selling in an imperfect market, the businessman are often able to charge slightly higher prices than would be possible under perfect competition. The error of identifying profits with wages becomes apparent when we analyse the net incomes of the joint-stock companies. Their profits and earnings of management are essentially different. The ordinary shareholders do not exercise any particular function in connection with the business. They are predominantly risk-bearers. Owing to these reasons "there is a scientific necessity for treating differently profits and wages."

Risk-bearing and profits: Almost every writer is agreed that profits arise because of the risks inherent in the productive organisation. Hawley's name is prominently associated with this theory. According to him, the most essential function of the entrepreneur is risk-taking. Risks are inherent in all business, and the assumption of risks is necessary if production is to continue. But the bearing

of risks is unpleasant and irksome. Hence risks would not be borne without the expectation of a reward. Profit is the reward for the risks that the entrepreneur bears. And the remuneration must be something more than the average normal return on the capital risked. For, no one would subject himself to risks if, on the average, he gets only the normal return to be obtained from the safe investments. Hence the reward for risk-taking must be higher than the actuarial or the average value of the risks borne.

Moreover, the risks will act as a deterrent to the entrance of men into the enterprises. In this way, the supply of entrepreneurs

willing to embark on risky businesses is diminished, and those who venture and survive, secure an excess return because of the limitation of competition.

Very few economists would deny that profits include a remuneration for risk-taking. But that does not mean that risks should take the whole stage to the exclusion of others. Profits, of course, go to the person who assumes risks, but do not go only as a compensation for the risks in proportion to their magnitudes. On the other hand, as Carver points out,* profits arise not because risks are borne, but because the superior entrepreneurs are able to reduce risks. Hence paradoxically it may be said that the businessmen get profit not because of the risks they bear, but because of the risks they do not bear. Further, according to Knight, not all kinds of risks give rise to profit. There are certain risks which are 'known' in the sense that their average incidence can be measured by statistical methods. For example, the average risk of death in a community can be statistically determined, and a sum can be fixed as a premium to cover such risks. There are other risks whose incidence is unknown, *i.e.*, not determinable by statistical methods. The remuneration, or the premium for the known risks is not profit, but is included in the costs of a business; whereas profits are a surplus above costs. Profits arise due to the assumption of the *unknown* risks. Lastly, it is doubtful how far there is a real cost of risk-taking. There seems to be little evidence to show that the bulk of the entrepreneurs must be paid some additional reward to induce them to take up a risky business. All that is necessary is that they should know that they *may* make large profits in such businesses. Many people remain in business because they value their independence. They wish to give orders, not to receive them. That such a position may be attended with risks may not deter them from managing their own business.

Uncertainty-bearing and Profit: Modern theories of profit maintain an inevitable connection between profit and uncertainty-bearing. The assumption of uncertainty, like that of waiting, is a disutility and must therefore be rewarded. Just as it is the function of the capitalist to supply waiting, so it is the peculiar function of the entrepreneur to bear the uncertainties of production. Profit, the income of the entrepreneur, is therefore the reward of uncertainty-bearing.

Uncertainty has been defined by one writer as "the expectation of the irregularity of income." Knight makes a distinction between

risks and uncertainties in this way. Not all kinds of risks give rise to uncertainty. There are some risks, *e.g.*, the risks of death, whose average incidence in a community is statistically measurable, and to cover which a premium may be fixed. These are 'risks' proper, and do not generate a feeling of uncertainty. There are, however, other

* Carver, *Distribution of Wealth*. P. 274.

risks which cannot be foreseen, or measured in that way. These latter risks give rise to uncertainties. And in order to induce people to shoulder these risks, we must offer them a reward over and above that expected in industries where there are no uncertainties. That reward is profit.

Uncertainty-bearing has been ranked as a factor of production like waiting. The unit of uncertainty-bearing has been defined by Pigou as "the exposure of one pound to a given scheme of uncertainty in an act the consumption of which occupies a year."

Uncertainty-bearing is a factor of production. The demand for the various units of uncertainty-bearing comes because they are productive. This productivity of uncertainty-bearing is best illustrated by Pigou's example of breaking the vases. Uncertainty-bearing, *i.e.*, people's willingness to assume uncertainties has a supply price, depending (a) on the character of the entrepreneurs. Men of cautious temperament will be attracted only by a very high reward, while gamblers will rush in where wise men will fear to tread. It depends (b) also on the total amount of resources possessed by investors, and (c) on the proportion of these resources to be exposed. Richer persons are more willing to venture into risky investments. When the business requires the investment of a smaller proportion of the total resources, a person may be willing to risk it for a smaller reward, while he will expect a higher profit when it will absorb a greater part of his capital.

Moreover, uncertainty-bearing as a factor is seldom found in isolation. One must have something to lose when one is assuming risks. That something is generally capital. This association of uncertainty-bearing with capital is another source of profit. In many cases it is difficult to find the combination of these two factors. Men who are willing to assume risks may not possess capital, while rich persons may prefer safe investments. The persons who combine these two thus possess a strategic advantage and earn some revenue which is of the nature of quasi-rent.

The first criticism that has been urged against the theory is that uncertainty-bearing is not a separate factor of production. If only we accept the doctrine of real cost,—that all costs are ultimately reducible into pains or disutilities, then we can rank it as a separate factor. But modern opinion is not inclined to accept the doctrine of real costs. The fact that labourers working in disagreeable circumstances may obtain higher wages does not constitute disagreeableness into a separate factor. So the fact that entrepreneurs have to produce in uncertain circumstances does not constitute uncertainty-bearing as a separate factor. It is merely a characteristic of the entrepreneur-functions,—a characteristic which results in increasing the supply-price of capital and enterprise. In a risky business, people expect a higher reward. That is all.

Further, uncertainty-bearing cannot furnish the sole explanation of profit. It may be the most distinctive function of entrepreneurs, but it is not the only function. There are also other features,—the entrepreneur's capacity for co-ordination and innovation for which a reward is expected. Lastly, uncertainty-bearing is only one of the forces that limit the supply of the entrepreneur class. There are also other influences, *e.g.*, the different elements of social stratification, and the environment which are as patent in limiting the supply of entrepreneurs as uncertainty-bearing.

Marginal Productivity and Profit: The remuneration of every factor of production is determined by the theory of marginal productivity. The employers' remuneration is taken to be due to his business ability. Profits would tend to equal the marginal net product of one unit of the factor—organisation. The marginal net product is "the amount which the community is able to produce without his help over and above what it could produce with his help." Writing in the *Economic Journal*, Chapman* came to the conclusion that profits tended to equal the marginal social worth of the employers, in exactly the same sense in which the labourer got his marginal net product to the employer. The only difference is that the marginal net product of a workman is determined directly, whereas "the forces bearing upon the employer's remuneration operate indirectly and more tardily". Edgeworth arrived at the same conclusion by another process. "Normally it may be presumed that an independent entrepreneur does not make less than a manager of like abilities, and perhaps he does not make much more If the remuneration of the manager is just equal to the amount which he produces, then the remuneration of the entrepreneur is not very different from the amount he produces."*

The main difficulty about explaining profit by marginal productivity is that the unit of the factor, organisation, is not infinitesimally small. Rather it is inconveniently large. And so the withdrawal of one entrepreneur might mean the disorganisation of the whole business. It becomes difficult to measure marginal net product of the services of the entrepreneur. Moreover, while the productivity of other factors is measured directly by the entrepreneurs, that of entrepreneurs themselves is measured indirectly, 'in a more haphazard fashion by the immediate action of their own competition.' Hence the measurement is not exact, if not impossible.

• **The Dynamic Theory of Profit:** J. B. Clark, the celebrated American economist, explained profit by saying that it was due solely to dynamic changes. The function of the entrepreneur, according to him, was quiet distinct from that of the labour of management and superintendence, or from that of the risk-bearer. It is the

* Remuneration of Employers. *Economic Journal*, Dec. 1906.

function of the pioneer—the creative agent who is instrumental in effecting changes in the economic organisation.

Profit is the difference between the selling price and the cost. If competition works out its full effect, and no new changes occur in the economic organisation, each factor would secure what it would produce, and the selling price would be equal to the cost.

Hence there would be no profit above the wages of superintendence. Profits, therefore, tend to disappear in the static state. In the static state, Clark assumed five kinds of changes to be absent. First, there is no increase in the number of population; secondly, the supply of capital is not increasing; thirdly, the methods of production do not change; fourthly, the forms of business organisation remain the same; and lastly, the wants of the consumers are not modified. In such a static state, the price would always be equal to the cost of production of each commodity. Profits, being the surplus above cost, would vanish.

But it is the special function of the entrepreneurs to disturb this equilibrium. An entrepreneur, by means of his superior co-ordinating ability, will lower the costs and thus secure profit. The typical dynamic change is an invention. The adoption of the invention will enable the entrepreneur to produce at a lower cost. He obtains a profit. But sooner or later, competition sets in; other entrepreneurs adopt the invention; output increases; and the price falls. Moreover, owing to the competition of the entrepreneurs, the rates of wages and interest rise. That means that the costs rise also, until the costs and the price become equal; profit then disappears. Profits are thus unstable and temporary. They are the offspring of change as also the incentive of changes. The pioneer-entrepreneur, who boldly dashes out into a new path enjoys a surplus temporarily. But soon the competition of others forces him to surrender his profit to the community, either in the form of higher wages, or higher interests or lower prices.

"The ultimate goal of the whole movement (of any dynamic change) is a no-profit state." In the stationary state therefore, where frictionless competition exists, profits would tend to a minimum. In actual life, however, changes are constantly occurring, and the influence of competition is impeded by constant friction. Entrepreneurs therefore are always able to secure profits.

One criticism of the theory that has been advanced by F. A. Knight is that not all types of dynamic changes give rise to profit. Changes which happen regularly, and which are therefore foreknown would be discounted in advance, in the same way as the average incidence of death in a community is statistically determined and a premium is fixed for those risks. The financial results of these foreseen changes will be determined and included in the costs. It is

only those changes which cannot be foreseen, and which are unpredictable, that give rise to profit. Taussig criticises this theory on the ground that it makes an artificial distinction between profit and earnings of management. "Even the routine conduct of established industries calls for judgment and administrative capacity, and for the exercise of the same faculties that are more conspicuously and more profitably exercised under conditions of rapid progress."* In the static state, the entrepreneurs would secure wages of management. The reward for risk-taking would disappear if risks are non-existent in such a state. The major part of the risks would not of course exist: but a certain number of risks, for example, the risks of loss by fire, by the negligence of producers, or the risk of defalcation by employees, (*i.e.*, Marshall's personal risks) would remain, and reward must be given for their assumption.

Conclusion: The defect of all these theories is that they lay emphasis on particular aspects of the functions of the entrepreneurs to the exclusion of others. Profit, however, is not a homogeneous income. The entrepreneur performs not one function, but a composite function, *e.g.*, risk-taking, uncertainty-bearing, planning, selecting, deciding, etc. Hence no single theory would be adequate to explain the true nature of profit. Moreover, mere analysis of the functions of the entrepreneurs, as is done in the theories, cannot explain the emergence of profits. The true theory of profit must also explain why the supply of entrepreneurs is limited. For, if capable businessmen were as plentiful as manual labourers now are, their reward would not be much higher than the common day-labourer's wages, in spite of their performance of various functions. But to explain why the supply of entrepreneurs is limited is to explain the present social organisation and the present social stratification. It must explain why qualities essential to entrepreneur function, *viz.*, imagination, judgment, skill and ability in organisation, shrewdness in meeting risks, a certain courageous self-confidence are limited: how much of this limitation is due to natural causes, and how much due to environmental causes. The theory must also explain why prices sometimes rise above costs and give a windfall profit. Clark's emphasis on dynamic changes is valuable in this respect. Some attention must also be given to the courses of monetary or cyclical disturbances which leave in their trail profits or losses. The theory of profit must therefore touch at one point, the problems of social stratification, and at the other point, the problems of the theory of money.

Justification of Profit: At the hands of socialists, profits have been severely criticised. All value, according to Marx, is due to labour, and must go to labour. The surplus value, which is profit, is something taken away from the shares of labour. Profit is therefore "legalised robbery."

* Taussig. *Principles*. Vol. II. P. 129.

There is no doubt that there are many elements in actual profits, which cannot be defended. The employer may swell his profits by paying to the labourers less than their marginal worth; or by 'sweating' the helpless workmen. Privileges yielding valuable financial benefits may be obtained dishonestly. The industrialists may bribe the legislators into passing tariff legislation. On the stock exchanges gambling and unscrupulous manipulation of the market may enable persons to become rich. Monopoly profits may be secured which are in many ways unjustifiable. There are innumerable other ways in which large sums can be collected by foul means. Nothing can be said in defence of these types of profits. They result often from the low commercial morality of the people. The proper remedy against such practices is full freedom of competition and the improvement in the moral spirit of the public.

But the condemnation of these types of profits cannot also lead to the condemnation of normal profits earned by honest work. They are the inevitable outcome of the institution of private property. Just as you must pay people for waiting, so you must also pay them for risk-taking and uncertainty-bearing. The entrepreneur, by assuming risks, and by directing the productive organisation, renders useful services to the society for which he must be paid. The services of the businessmen, are no less valuable than those of workers. By his superior organising ability, by his boldness and sagacity in shouldering the risks; an entrepreneur increases the productivity of the economic organisation in a greater ratio than would have been possible otherwise. Profits have been the spur of progress under the present organisation of society and to stop profits would mean the abolition of progress. Of course if we abolish private property, the payment of profits will not be necessary. But the abolition of private property raises other questions which will have to be discussed in another place.

CHAPTER 30

THE DISTRIBUTION OF INCOME

So long we have been discussing how the share of each factor of production is determined. This study of functional distribution is quite distinct from that of personal distribution. An individual may derive his income from several sources. His income may be partly rent, and partly interest, wages or profits. A study of the distribution of the national income among the individuals of a country is highly significant for certain purposes. It will enable us to know the answers to the questions as to the material conditions of the masses.

One fact which stands out prominent in connection with our study of the distribution of personal incomes is the extreme inequality of incomes. This is borne out by the studies in the distribution of incomes in various countries.

Inequality of incomes. From the figures collected by Lord Stamp in his *Wealth and Taxable Capacity*, we find that the richest 1.3 per cent. of the income-receivers of England obtained 24.2 per cent. of the incomes in 1920, while 71.3 per cent. of the income-receivers received only 29 per cent. of the total income. In all, nearly 95 per cent. of the income-receivers obtained barely 60 per cent. of the total, while 40 per cent. was taken by less than 5 per cent. of the income-receivers. This is also borne out by the statistics of income distribution in the U. S. A. In 1926, the lowest income group included 2.89 per cent. of the people, and they received only .31 per cent. of the total incomes. On the other hand, the richest 1 per cent. received 18 per cent. of the total, while nearly 48.4 per cent. of the lowest income-receivers received barely the same amount. In India, according to the estimates made by Shah and Khambata in 1913, 5 per cent. of population of British India enjoyed a third of the national income. Another one-third of the national income was taken away by 35 per cent. of the population. 60 per cent. of the people obtained about 30 per cent. of the total income of the country.

There is another fact to be noted in this connection. According to the findings of Stamp and Bowley in England, the relative distribution of the national income has remained substantially the same in the last hundred years. The increase in the *per capita* incomes which occurred during this period was shared almost equally by all classes. In other words, while the rich are becoming richer, the poor are not becoming poorer.

The distribution of wealth is also very unequal. In the U. S. A., according to the figures published by W. J. King,* 57 per cent. of the

* Journal of the American Statistical Association, 1927, P. 145.

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adults who died between 1912-1923 left no property to be probated. 24.79 per cent. of the dead left property worth less than \$1,000 each. 37.6 per cent., left property worth between \$1,000 to \$5,000, while 2.2 per cent. left property worth over \$100,000. In England 94 per cent. of the property-holders own less than £1000 worth of property. The wealthiest 2 per cent. own 67 per cent. of the total wealth.

Inequalities of incomes may be said to be based on the inequalities in the distribution of wealth. But such need not be the case. Many professional men may earn high incomes, but they may not possess large properties. The cultivators possess some property in the form of land and live-stock. But their incomes are usually very low. It should be noted that such extremes in the distribution of incomes do not mean the same difference in the scales of consumption. The upper and the middle classes consume a relatively small portion of their incomes, and save a large portion of the income. So the scales of consumption do not show the same wide divergence as those of incomes. Nevertheless such inequalities of income lead to the growth of inequalities in the distribution of wealth or property.

Such inequality of incomes means a grave danger to the peace and progress of the society. Persons with large incomes are able to control the course of production. They own the factories, the mines, etc. Thus a small number of persons have the power to control the destiny of the millions who possess no property and so must accept jobs at the bidding of the rich. This state of affairs is incompatible with the democratic principles which are based fundamentally on the equality of men. Such extreme inequality introduces an element of instability in the social order. As Aristotle pointed out long ago, there is no more potent cause of revolutions than extreme inequalities.

The main causes of such inequality of incomes are three. The cause is, first, the difference in the natural abilities possessed by different men.

Causes of inequality. Hence the men who are gifted with high natural abilities succeed in earning high incomes. Secondly, the differences in

incomes are perpetuated through the system of inheritance. When the successful businessman dies, he leaves behind him a vast property which is inherited by his heirs. Lastly, the system is also perpetuated because of the influence of environment and opportunity. Those who inherit property also inherit new and better opportunities in life. They are likely to secure higher incomes.

The baneful effects of such inequality are admitted by the vast majority of writers. All progressive states have taken steps to reduce this inequality of incomes because taxes are

Steps for reduction of inequality. levied at steeply progressive rates, taking a larger slice of the income in taxes as the income rises. Transfer of property after death is heavily taxed through death duties with the result that the largest accumulations of property are substantially reduced. The resources that are taken from the

richer classes through taxes are spent by the governments in bringing increased benefits to the poorer classes. Old age pensions, sickness insurance schemes, maternity benefits, free schooling and free food to the poor school children,—these and many other methods are adopted by the modern states to ease the lot of the unfortunate section of the population. Minimum wage laws have been passed to assure at least living wage to the workers. Powers of the monopolists are strictly controlled so as to prevent the growth of monopoly profits, one important source of great fortunes.

The more radical among the supporters of the present capitalist system urge the adoption of more drastic steps. Many of them are

Rignano scheme of Death duty. of opinion that the system of inheritance should be abolished altogether. But there are strong arguments against such a proposal.

So long as the institution of private property is retained, complete banning of inheritance would mean a falling off in the volume of accumulations. If the state takes away the whole of an estate after death, the owner would have every motive to dissipate his property during his life time. To solve this difficulty an ingenious scheme has been suggested by an Italian writer of the name of Rignano. According to his scheme, the state will take away the whole of an estate after death in successive stages. After the death of the first owner, the state will take in taxes (say) one-third of the estate. Another one-third will be taken when the heir of the owner dies, and the remaining portion will be absorbed after the next devolution of the property. This scheme, it is claimed, will actually cause an increase in the volume of accumulations, while the whole of the estate will be absorbed in taxes in course of a generation or two. There are many difficulties attending such a scheme.* And there is little prospect that it will be adopted by any country in the future.

CHAPTER 31

THE NATURE AND FUNCTIONS OF MONEY

Definition of money: Money is a concept which we all understand, but which it is difficult to define in exact terms. Most definitions of money take as their starting point, not the substance, but the functions of money. 'Money is that which money does.' Any particular thing is money if it serves the primary function of money, *i.e.*, if it serves as the medium of exchange. Thus anything which has general acceptability, which passes readily from hand to hand in the settlement of debts and transactions is money.

The definition of money may be conceived in wider or narrower terms. In the wider sense, it means any thing which is used in the settlement of transactions, and which the creditors generally accept in settlement of debts. It includes coined money, paper notes, cheques, bills of exchange, etc. In the narrower sense, it means those things which the creditors must accept, and includes only coins, and paper notes possessing legal tender quality.

Inconveniences of Barter: The advantages or the uses of money are best understood by considering the system in which money

is absent. Such a system takes the form of *barter*,—the direct exchanging of goods against goods. What are the inherent difficulties of such a system? The *first* difficulty is the lack of coincidence in the wants of buyer and seller. The producer of jute may want shoes in exchange for his jute. But he may find it difficult to find a shoemaker who is also willing to exchange his shoes for jute. The *second* difficulty under the barter system is the absence of means of subdivision. How to exchange goods of unequal value? The shoemaker wants a loaf in exchange of his shoes, but the exchange value of a piece of loaf is but a fraction of a pair of shoes. Shoes cannot be subdivided without destroying their values. *Thirdly*, there is a want of measure of value in barter. Each article must have as many different values as there are other articles for which it is to be exchanged. When thousands of commodities are produced and exchanged there will be an infinite number of exchange ratios. Want of a common denominator by which to express the exchange ratios is keenly felt by every body at this stage. Money obviates these difficulties.

Functions of Money: The uses of money are manifold. To quote a well-known couplet,

"Money is a matter of functions four
A medium, a measure, a standard, a store."

The first and foremost function of money is that it serves as a *medium of exchange*. Instead of exchanging goods for goods, goods are exchanged for money. The lack of double coincidence of wants, which is the chief stumbling block in barter, is wholly

(a) *Medium of exchange.* eliminated in a money economy. The producer of a commodity sells it for money and distributes his income among the different things so as to get maximum satisfaction out of his income. Money as a commodity not only helps the consumer, it also helps the producer. It enables the producer to concentrate his attention solely on his occupation and thus to add more effectively to the general flow of goods and services which constitutes the real income of the society.

The second function of money is that it serves as a *measure or standard of value*. The value of each commodity is expressed in terms of money—a common denominator. The

(b) *Standard of value.* exchange of all articles is facilitated in this way. Money is the measuring rod for measurement of the value of each commodity. The ideal standard of measurement is one in which the measure is a stable one for all times to come. As one foot indicates a certain amount of length, as one pound indicates a certain amount of weight for all times to come, so a unit of money expresses a certain amount of value. But the fundamental defect of money as compared with other standards of measurement is that the value of a unit of money fluctuates from time to time, and thus is not an ideal standard of measurement.

The third function of money is that it serves as a *standard of deferred payments*. Lending and borrowing are common features in every business community. Debts are con-

(c) *Standard of deferred payments.* tracted for a period of time which may be short or long. There must be a unit for calculating these debts. By providing such a unit money greatly facilitates borrowing and lending. It is thus one of the factors which have built up the vast economic organisation of modern times.

A fourth function of money is that it serves as a *store of value*. Gold and silver, which are selected as money materials, are less perishable than any other commodity in the world.

(d) *Store of value.* Wheat or any other product which will command a value cannot be stored for a long period. Money obviates this difficulty. One can store purchasing power for all times to come by keeping it in forms of money. Thus it would seem that value can be stored by hoarding money. We generally hold money in reserve against future payments.

Modern economists are laying stress on another aspect of money, its liquidity. Since by definition, money is the most generally acceptable commodity, it is also the most liquid of all resources. Possession of money will enable one to get hold of almost any commodity in any place and money never lacks a buyer. People may refuse to accept

other commodities; but they will seldom refuse to accept money, or to sell goods against money. Hence money is the most liquid of all resources. It is this peculiarity which distinguishes money from all other commodities. A preference for liquidity is a preference for money. The Keynesian theory of interest is built up round this peculiarity of money.

Qualities of good money: If we study the history of money, we shall find that all sorts of commodities like tobacco, tea, cow, cowrie have been used as money at one time or another. But in course of time all other commodities were discarded in favour of gold and silver. Now what are the special qualities of gold and silver which have led almost all countries to use them as money? The main reason is that these two metals satisfy all the qualities of good money.

The first and foremost quality of good money is *portability or ease of transport*. The material must contain high value in a small bulk, so that the cost of transportation from place to place may not be prohibitive. Silver and more particularly gold fulfil this requirement in a pre-eminent degree.

The second quality of good money is its *general acceptability*. Apart from its use as money, it must have other uses which it will be highly demanded and will be readily acceptable by everybody. Gold and silver, apart from their monetary uses, have considerable demand for use in arts and for making ornaments.

The third quality of good money is *durability*. It must be highly durable and must not deteriorate by wear and tear; otherwise the stability of the value of money cannot be maintained.

Fourthly, a good money material must be *homogeneous and divisible*. All coins must be made of the same fineness, so that there will be nothing to choose between one coin and another of the same weight. The material must also be capable of division without having any value so that the value of coins may be fixed according to their relative weights. Further, such materials should be easily malleable, so that they might be stamped with intricate designs.

Fifthly, such money materials must possess the characteristics of *cognisability*, i.e., they must be easily recognisable and distinguishable from other materials. They must be known either by sight or by sound or the touch, otherwise counterfeiting will be rampant.

Lastly, money materials should have a stable value over a considerable period of time. As money is the standard by which we measure the values of other commodities, it is highly desirable that the standard itself should be the same for all times to come. *Money is the standard of value.*

Classification of Money: The first classification of money is that between *actual money* and *unit of account*. *Actual money* is that by delivery of which all payments are actually made and in the shape of which a store of general purchasing power is held. Pound, shilling, pence, or the rupee of our country are actual money. *Money of account* is that in terms of which debts, prices and general purchas-

ing power are expressed. Money of account is the *description or title* and actual money means the *thing* which answers to this description. The description may remain the same *i.e.*, theoretically the unit of money may remain the same while the actual money answering that description might have changed. The unit of account in our country is the rupee. But the actual rupee has varied in weight. Previous to 1941, it contained 160 grains of silver. But now it contains only 90 grains of silver. Without 'money of account', money proper can not exist in the full sense of the term. All debts and contracts are expressed in terms of money of account, while the payments are made in actual money.

Actual money or money proper is further subdivided into *commodity money or full-bodied money* and *representative money*. Commodity money is that money which is composed of money metals, the intrinsic value of the coin being equal to its face value. Commodity money is both a medium of exchange and a store of value. But there are other kinds of money, which circulate freely as a medium of exchange, but which are not stores of value. They represent stores of value, *i.e.*, they are convertible into commodity money which are themselves stores of value. These kinds of money are best known as *representative money*. Notes exemplify representative money. Representative money may be issued either by governments in the shape of notes, or it may be issued by banks in the shape of bank-notes.

Representative money is further divisible into *convertible money* and *inconvertible money*. Convertible money is actually convertible into coins on demand at a fixed rate; while inconvertible money is not actually so redeemable.

Another way of classification is between *legal tender money*, *optional money* and *subsidiary money*.

Legal tender money is that money by means of which any payment can be made in law and the payee is bound to accept it. It may be made unlimited legal tender or a limited legal tender. Any money which is legal tender up to an unlimited amount is unlimited legal tender, while some money may be made legal tender up to a fixed maximum amount. A rupee is unlimited legal tender. The pound in England is unlimited legal tender, whereas shillings are legal tender only upto £2.

Optional money consists of that vast amount of monetary circulation which, while, not legal tender, is generally accepted in the discharge of debts and in other payments, *e.g.*, bank notes, cheques, etc.

Subsidiary money is that money which is used for purposes of small change. Eight anna pieces, four anna pieces, two anna pieces, one anna pieces, pices, pies are subsidiary money. These coins are made in small denominations for purposes of small change. They are also made of inferior metal, *e.g.*, nickel, bronze, etc. They are generally limited legal tender, and are issued only by the government in limited amounts.

Another way of classifying money proper is to divide it into *standard money* and *token money*. The *standard money* embodies or represents the money of account. It is the unit by means of which the values of all other media of exchange are measured. It is a coin made of the standard metal, gold or silver, and its face value is more than its intrinsic value. It is also unlimited legal tender. *Token money* is money whose face value is more than its intrinsic value. It is characterised by shortness in weight: it is worth less as a mere piece of metal than as money. It is generally issued only by the government and in limited amounts to keep up its value. It is also usually a limited legal tender.

Coins and Coinage: When the precious metal came to be used as money they were used as rough ingots, and were weighed each time when an exchange was effected. But this system was obviously disadvantageous. With the advent of the system of coining, coins became homogeneous in fineness and weight and the former disadvantages disappeared. Under the modern system of coinage the edges of the coins are milled to prevent abrasion and intricate designs are used to prevent counterfeiting.

Coinage was generally free and gratuitous in every state having a standard money;—free because any person could have any amount of the money metal converted in the coins, and gratuitous because no charge was made for the mintage.

If a charge is made for covering the cost of converting bullion into coin, the charge is known as *mintage* or *brassage*. If the charge is higher than the actual cost, then the charge is known as *seigniorage*. The seigniorage may be taken in two ways:—(a) a certain proportion of alloy may be inserted in the coins in place of the precious metal, or (b) a charge higher than the actual costs of minting may be made.

The *mint price of gold* in any country is the rate at which a gold coin is given by the mint in exchange for gold bullion. In England the Mint in pre-war days used to accept gold for coinage at the rate of £3 17s. 10½d. per ounce, eleven-twelfths fine. As the minting was free and gratuitous, the mint price could not differ much from the market price of gold.

Gresham's Law: During the reign of Queen Elizabeth an effort was made to reform the system of coinage of England. The Tudor kings before her had put forth a large number of debased coins into circulation. Elizabeth tried to oust these from circulation by issuing new coins. But the new coins went out of circulation as fast as they were issued. Perplexed, the Queen sought the advice of Sir Thomas Gresham who gave an explanation of this phenomenon. Hence the statement is known as Gresham's law. It should be noted that the law was formulated more than once before Gresham, so it is difficult to understand why it should be named after him. It was McLeod who first christened the law as Gresham's law.

The law states that "bad money tends to drive good money out of circulation, when both of them are full legal tender." Now "bad" money does not mean counterfeit, debased or clipped coins. *It refers to those moneys which are inferior or cheaper in substance value.* Hence the law may be stated in another way. "Moneys which are inferior in respect to exchange- or substance value commonly show greater tenacity in circulation than those which are superior in these respects."* For example, when only gold or silver coins are in circulation, old, worn out, and light weight coins are bad money; when metallic coins and paper money are in circulation, paper money, being cheaper in substance value is bad money. The question then arises, how does good money go out of circulation? When both the good and bad money are circulating side by side, people will generally melt the good coins and so only bad coins will be left in circulation. If a jeweller wishes to melt a gold coin for making ornaments, he will generally choose a new coin of full weight, rather than one weighing less. The same is also true of the exchange dealer who wants to ship gold to pay the foreigners. The gold coins of one country are not legal tender in another. Hence gold coins must be melted into bullion and sold as such in the foreign country. Since the foreigners will accept gold coins by weight only, the coins of full weight will be shipped. Thus the good money will disappear through *payments to foreigners*. Lastly, when people want to *hoard money*, they will naturally prefer good coins.

The chief cause of this tendency is the fact that the superiority or cheapness of the different kinds of money is of little importance in actual exchange transactions. Coins which are slightly short in weight generally have no difficulty in passing in trade. Only those people who are extremely careful will notice that they are short; and in the hurry of business, very few people have time to notice it. Even if one notices it, he does not hesitate to accept it, because he knows that he will not have much difficulty in passing it on to some one else. Often the businessmen cannot refuse to take such coins for fear of displeasing their customers. Hence in active circulation, bad money serves as well as good money. But in other uses, the quality of coins is of some importance. For example, the jeweller must melt only the very best coins.

In order to avoid the operation of this law modern governments constantly withdraw from circulation old and light coins and replace them by new ones. This law may be in

Gresham's law and operation not only when the coins are of the bimetallism. same metal, but it may be found to operate under other circumstances as well. Under a bimetallic standard when when gold and silver coins are freely minted and are unlimited legal

* Taylor—*Principles of Economics*. P. 407.

tender, the over-valued metal (over-valued at the legal ratio) tends to drive the under-valued metal out of circulation. Thus when the market ratio of gold and silver differs from the mint ratio, one or the other metal is driven out of circulation. A similar phenomenon was witnessed in India during the pre-war days. Both sovereigns and token rupees were unlimited legal tender. But all sovereigns put into circulation immediately disappeared. The government concluded that India did not want gold coins. But the true reason for the disappearance of gold was the operation of the Gresham's law. Rupee was a token coin and naturally people would like to make payment in token coins and hoard gold. Gresham's law may also come into operation when there is a considerable circulation of paper currency side by side with metallic money. If, by over-issue or for any other reason, the paper currency becomes depreciated, the metallic money goes out of circulation altogether. During the war and the post-war days many countries had to issue inconvertible paper money and the metallic money wholly went out of circulation. Thus the law may be found to operate under various circumstances.

Gresham's law and bimetallicism.

The law will fail to operate under the following circumstances. First, it will fail to operate if the total circulation of money including both good money and bad money fails short of the actual monetary needs of the community. Secondly, it will fail to operate if the community as a whole refuses to accept and circulate bad money.

CHAPTER 32

CHANGES IN THE VALUE OF MONEY

Index Numbers: The value of everything is measured in terms of money. But the value of money cannot be measured in terms of money. The latter is usually wanted for the purpose of buying goods and services. Therefore the value or the purchasing power of money can be determined by averaging the prices of a number of selected commodities on which people spend their income. The average of the prices of the commodities and services on which money is spent for various purposes is called the *price-level*; and a series of price-levels is called the *Index-numbers*. Index numbers are therefore figures of price-levels arranged in a table with a view to show the changes in the prices of goods and services in which we are interested. They are a kind of statistical average of the prices of different commodities and services for the purpose of showing the fluctuations in the value of money. When the price-level rises, that means a given amount of money buys less commodities; the value of money has fallen. Similarly, when the price-level falls, the value of money rises. The value or the purchasing power of money therefore varies inversely with the price-level.

When we study the prices of particular goods over a period, we find that some of them may be rising, while others may be falling. Moreover, those which are rising or falling, are moving upwards or downwards at different rates. But throughout all these conflicting movements, there is a central tendency of the whole group. When this central tendency is rising, the prices of most commodities will be rising too, though some may be falling at the same time. It is the purpose of the index-numbers to point out this central tendency.

The main facts about the construction of index-numbers are the following :—(a) we must take a base period, and the prices of other periods are to be compared with those of the base period. Then we must select the number of commodities, their prices at different periods, and then calculate the averages of prices. To take a concrete example,

In 1939		In 1940	
Rice per maund	Rs. 6=100	Rs. 8=133½	
Pulses "	" 5½=100	" 11=200	
Sugar "	" 6=100	" 9=150	
Flour "	" 5=100	" 7=140	
Tea per pound	" 1=100	" 1½=137½	
Average=500÷5=100		760½÷5=152½	

Therefore if the price of the five articles was represented by 100 in 1913 (the base year), the price-level of the same goods in 1919 has risen to $152 \frac{1}{6}$, i.e., by $52 \frac{1}{6}$ per cent.

But index numbers, constructed according to this method, do not show a correct picture of changes in the value of money. It ascribes equal importance to every commodity. The result is often misleading. The price of rice may rise in any year by 50 per cent and that of tobacco may fall 50 per cent. The average remains the same, and the index number does not change. But the rise in the price of rice will affect the people in a greater degree than the benefit accruing from the fall in the price of tobacco. To give better results, the different commodities should be given due weight in accordance with their importance in national consumption. If the importance of rice is four times that of tobacco, the

Weighting an Index number.

price of rice should be multiplied by four while that of tobacco by one. To take a numerical illustration, represent the prices of rice and tobacco by 100 in 1939. The average is 100. Next year the price of rice rises by 50 per cent., while that of tobacco falls by 50 per cent. Then in 1940, the price of rice is 150, that of tobacco is 50. The average is still 100. The unweighted index will show no change. If rice is 4 times more important than tobacco, its price should be multiplied by 4. In 1940, the price of rice will be 150×4 , or 600; and that of tobacco is 50. The average is 130. This index number will therefore show that the value of money has fallen. This is more accurate as the 50 per cent rise in the price of rice affects people more than the similar fall in the price of tobacco. The weight to be attached to different goods is to be determined by reference to the relative amounts of their income which people spend on them.

Devised in this way, index numbers have been used in all countries to measure changes in the average price level. But there are certain

Difficulties in the construction of index numbers.

practical difficulties with regard to the construction of index numbers. The first difficulty is with regard to the choice of the base period. Care should be taken to select the base period, which should be as normal as is possible. The question of the prices to be averaged raises another problem. Most index numbers are based on wholesale prices as it is comparatively easy to collect such prices. But the ordinary consumers buy goods at retail prices. Hence if our index numbers are to show changes in the purchasing power of money, they should be based on retail prices, not on wholesale prices. But it is very difficult to get correct statistics of retail prices. In recent times, however, attempts are being made to devise index numbers based on retail prices, e.g., cost of living index numbers. There are also certain difficulties in connection with weighting. It is not an easy task to determine the weight or the importance of an article in national consumption. The cost of food materials assumes greater importance in

the working class budgets than in those of rich persons. The weight to be given to automobiles in America will be different from that in India. Moreover, the importance of any article in national consumption may decline or increase over a given period on account of the relative rise or fall in the prices of different articles. Hence the weights are to be revised constantly.

The proper selection of commodities is also a perplexing problem. It is necessary to select a number of commodities which should be fairly representative of the purchasing power of money to a class of people. Different classes of people are interested in different kinds of goods. Changes in the prices of petrol and cars will materially affect the purchasing power of money to the rich while they will not mean anything to the poor. Even within the same class it seldom happens that two people spend their incomes on the same commodities and in the same proportion. A change in the prices of fish and meat will not affect the value of money to a vegetarian and a non-vegetarian in the same way, though both may belong to the same class of people. Strictly speaking, we ought to construct a separate index number of the cost of living for every person or family ; on account of differences in customs, tastes, size of the family, etc., different families within the same group are found to spend their incomes on different bundles of goods. Moreover, even if the proper commodities are selected, there is no guarantee that they will remain the same in quality over a period of time. "A bus ride during which you sit down is not the same thing as a bus ride during which you have to keep on giving up your seat," though on each occasion you pay the same fare. A Ford car of 1920 may be sold at the same price as another Ford car of 1935. Looking to price alone, the value of money has not changed. But if the second car contains many improvements, not thought of in 1920, one would certainly be getting better value for one's money in 1935 than would be shown by the index number.

Another difficulty is introduced by the fact that people may buy different goods at subsequent periods. New commodities may be introduced between the two periods ; some old articles may have dropped out of consumption. A generation which did not know tea may be supplanted by a generation which must have its morning cup of tea. A family which did not consume anything except ghee might now be forced to take only vegetable ghee. Hence index numbers based on averages of the prices of goods consumed in the first period will not provide a correct indication of the changes in the value of money in the second period. To meet this difficulty, Marshall suggested the method of "chain index numbers." "On this method, the price-level of 1900 is compared with that of 1901 on the basis of the commodities available in both the years, new commodities introduced during 1901 being ignored ; the price-level is then compared with that of 1902, the new commodities of 1901 this time being counted, but those of 1902 ignored ; and so on." But this method does not solve

our difficulties; it only enables us to avoid them. We cannot, for example, know to what extent we are better off or worse off as a result of the dropping out of a commodity, or the use of a new one. It is also not of much use in comparing changes in the value of money over long periods.

Hence index numbers can at best provide approximate indications of changes in the value of money. Difficulties in its construction become of less significance when the periods between which comparisons are being made are separated by short intervals; they become insuperable when long periods of time elapse. As habits are relatively fixed, the bundle of commodities on which we usually spend our incomes (especially the principal commodities) changes very little from year to year. Significant changes in the qualities of commodities, or the introduction of entirely new articles are hardly rapid enough to influence the cost of living, if the two periods under comparison are separated by a short interval of time. As a result, measurement of changes in the purchasing power of money over short periods can be approximately done by means of index numbers.

Purposes and kinds of Index-numbers: The purpose for which an index-number is constructed is essential to its proper construction. The selection of commodities, the weights to be allowed to the different articles are all dependent on the purpose for which we want the index-number. For example, an index number designed with a view to measuring the purchasing power of money will not be the same as that used to measure the cost of living. Therefore we must also consider the different purposes and kinds of index-number.

An index-number may be required to measure the general purchasing power of money. It should include all the items that are finally consumed. Such a comprehensive index-number has not yet been attempted owing to difficulties and complexities of the task. However, Mr. Carl Snyder's "the index of the general price-levels", constructed by "combining four types of price-levels", *viz.*, wholesale prices, wages, cost of living and rent, is

Different types of Index-numbers. somewhat more comprehensive. *Secondly*, index-numbers might be constructed to measure the changes in the cost of living of the working class. Wages in some industries are adjusted on a sliding scale to correspond with such changes in the cost of living. For this purpose, cost-of-living index-numbers are prepared in many countries. *Thirdly*, we may have an Earnings Standard computing the money-wages per hour of all the workers. *Fourthly*, we may have a Wholesale Standard, composed like Sauerbeek's and the Economist's, —of the prices of raw materials, food-stuffs and semi-manufactured goods. *Lastly*, when the purpose is the stabilisation of the price-level, a Tabular Standard composed of the wholesale prices of important commodities may be constructed.

Appreciation and depreciation of money : Appreciation means rising. Money is said to appreciate when its value rises, *i.e.*, when the general price-level falls. Depreciation means falling. Money is said to depreciate when its value falls, *i.e.*, when the general level of prices rises. Thus the appreciation of money indicates that the index-numbers have registered a fall, while depreciation of money means a rise in the index-number.

Inflation and deflation : There is a difference of opinion regarding the exact meaning of the terms "inflation" and "deflation". Inflation is sometimes said to occur "whenever the supply of money and of bank deposits circulating through cheques, so-called "deposit currency" increases, relatively to the demand for media of exchange, in such a way as to bring about a rise in the general price level."* But how are we to judge the extent of "the demand for media of exchange"? This as well as the allied ex-

Inflation: its meaning. pression, "needs of trade" do not carry us far. Different people have different ideas about the needs of trade. There is only one way by which we can determine whether the supply of money has increased more than the needs of trade or not, *i.e.*, by finding out whether the price-level has risen or not. But all rises in the price may not be inflationary. The rise in prices which occurs when the average level of costs of production increases cannot be regarded as due to inflation. Moreover, as some writers have pointed out, inflation may occur without any rise in prices. When costs are falling, but prices are kept stable (as in the U. S. A. during 1924-29), the country may develop all the symptoms of inflation. This state of affairs is regarded by Keynes as "profit-inflation", to distinguish it from "commodity-inflation" (meaning a rise in prices).

In his recent article on "Types of War Inflation", Prof. Pigou has stated that "inflation exists when money income is expanding more than in proportion to income-earning activity."† An increase in the supply of money will stimulate investment by lowering the rate of interest. As investment increases in the country, the volume of employment offered to the factors of production tends to increase so long as there are unemployment resources. With the increase in employment, or income-earning activities, output of goods and services will expand. So the increase in money incomes will be balanced by the increase in the output of goods and services. When the stage of full employment is reached, any further increase in the supply of money, leading to increased money-incomes, can not cause any further increase in employment, or income-earning activities or the output of goods. Hence there will occur true inflation as the price-level of output begins to rise.

* Kemmner on Money. P. 46.

† *Economic Journal*. Dec. 1941. P. 439.

Financing of a first class war usually gives rise to such inflation. During the war, there is bound to be an increase in the volume of employment, and so an increase in money-incomes. So the phenomena of inflation are usually found during and after war. Such inflation may occur in two ways. If, when prices rise as a result of diminished productivity, money wages are increased in sympathy with the rise in prices, the effect will be inflation. Secondly, if the members of the public are not handing over to the government, in taxes and loans, sufficient sums of money to defray the war expenditure, the government will be forced to create new money. This will cause an increase in money incomes and inflation.

Effects of changes in the price level : * If the fluctuations in the value of money affected each individual equally, they would not cause any serious inconvenience. But in practice changes in prices affect the different classes differently. Man is affected by the fluctuations of prices in his capacity as a wage-earner, entrepreneur, stock-holder, bond-holder, debtor, creditor and taxpayer ; and in each capacity he may be affected in a different way. Moreover, rising or falling prices influence the course of production and the distribution of wealth in different and often adverse ways.

Changes in prices and distribution of wealth. In the modern world, almost every body is either a debtor or a creditor, and in each capacity he is affected differently. During periods of rising prices, the debtors gain and creditors lose. When prices rise, money buys less goods. Thus though the debtors return the same amount of money, they return less in terms of goods. Conversely, when prices fall debtors lose, and creditors gain, because the debtors in returning the same amount of money return more in terms of goods (since money will now buy more). Therefore the investing classes and the savers lose during periods of rising prices, and gain when prices fall. Periods of rising prices not only diminish the value of the savings of investors, but destroy the atmosphere of confidence which is a necessary condition of the investor's willingness to save.

Similarly, a man may be either a wage-earner or entrepreneur. It is a familiar fact that during periods of rising prices, wages do not generally rise as high as the prices do. Therefore, the purchasing power of wages diminishes during periods of rising prices, and the wage-earners are thus hard hit. Conversely, when prices fall, wages do not fall so much and the wage-earners are therefore gainers.

But there is another side to this picture. During periods of rising prices, the employers make good profit and offer more employment to labour. Therefore during such times, though the purchasing power of

* For one of the best discussions on the topic, see Keynes—*A Treatise on Monetary Reform*. Chap. I.

wages diminishes, the wage-earners as a class get more employment.

Periods of rising prices are periods of good employment. Conversely, during periods of falling prices, the employers undergo losses, cut down output and so offer less employment to workers. As a result, a number of labourers becomes unemployed. Thus though real wages rise, total money-wages may fall as a result of falling employment.

The entrepreneurs, on the other hand, gain during periods of rising prices and lose during periods of falling prices. They gain because of three reasons. *First*, they are mostly debtors, and debtors gain when prices rise. *Secondly*, they buy raw materials and other goods at old and lower prices and sell when prices are generally higher. *Thirdly*, wages and other fixed elements in their costs do not rise as much as the rise in prices. As a result, they earn surplus profit, increase their productive activities, and offer more employment to others. The converse happens when prices fall. Their profits are turned into losses; they curtail production, and unemployment ensues. Thus periods of rising prices benefit those with fluctuating incomes like businessmen; and injure those with more or less fixed incomes like the interest-receivers, investors and wage-earners.

Effect of price-changes on production. Fluctuations of prices increase the risks and uncertainties of business operations, and thus hamper the smooth flow of productive activities. An increase of risks means that the risk-bearers will exact a big toll from the society in the shape of larger profits. But if prices were stable, risks would also be fewer, and the remuneration for risk-taking will be lower. Moreover, during periods of rising prices, businesses are unnecessarily stimulated. The businessmen earn windfall profits. They invest more in production, and in turning out more producer's goods. Ultimately, the supply of goods coming to the market increases vastly so that they could not be sold at profit. Businessmen then make losses and begin to contract production. Prices fall and unemployment ensues. Thus periods of rising prices stimulate production unduly, while businesses are unduly depressed during periods of falling prices.

Price-changes and Taxation and Public Debt. During periods of rising prices, tax-payers gain, because though they may pay slightly higher taxes they hand over less amount in terms of goods than before. The income-tax payers gain because they pay in rupees whose value has depreciated as compared with the value of the income when earned. The burden of land revenue also decreases, because the person has to hand over less in terms of goods to the government. Many other inequalities may be cited in the sphere of taxation. Moreover, rising prices decrease the real burden of public debts, both external and internal; while falling prices increase their burden.

Social consequences of price-changes. So long we have been considering the economic effects. But the social effects are no less serious. Periods of unstable prices are periods of great social unrest

and distress. When prices rise, wage-earners try to increase their wages as their cost of living increases. As a result rising prices are usually accompanied by strikes. When prices fall, the employers try to reduce the level of wages and this provides another source of friction, often leading to open conflict between the employers and the workers. Unemployment increases and creates much social unrest. Thus rising prices are characterised by strikes ; falling prices by lock-outs.

In conclusion, we may say that both the periods of rising or falling prices are harmful. Inflation diminishes the real income of the investors and the wage-earners, two most important classes in society. It causes an unhealthy growth of productive activities which would soon bring about a crisis. Deflation hurts employers, and therefore adversely affects the mainspring of productive activity. It increases unemployment, whose social and economic consequences are disastrous. A stable price-level would avoid both these types of evils. It would also lead to the preservation of amicable relations in industry. It is desirable therefore that the value of money should be stable.*

* For further discussions See Chap. 44.

CHAPTER 33

THE VALUE OF MONEY AND THE QUANTITY THEORY

The value of money is determined in the same way as the value of any other commodity, i.e., by the demand for and the supply of money. The same apparatus of supply and demand which determines the value of any other article can also be applied to determine the value of the units of currency. There are, however, certain peculiarities, both on the demand and the supply sides of money which place the theory of the value of money in a class by itself. We shall discuss these peculiarities in their places.

The value of money is determined by the demand for, and supply of money. It is necessary therefore to analyse the meaning of demand and supply of money. Why do people demand money? Money is the medium of exchange, and money is demanded whenever there is some exchange to be made. The demand for money, therefore, comes from the volume of goods offered for sale. But the goods that are consumed by producers (as in case of agricultural crops part of which is consumed by the growers), do not add to the demand for money. The supply of money means the total quantity of money which is used to purchase the goods offered for sale.

Demand for money comes from the volume of goods for sale. Hence we must exclude the money that has been hoarded and is never used to buy goods. The supply of money is different from the total amount of coins, paper currency notes and bank deposits. Each piece of money may be used several times in course of a given period in the purchase of goods. Each time a coin changes hands in the purchase of goods, it adds to the supply of money in this sense. The average number of times that coins change hands during a given period is known as the velocity of circulation of money. The supply of money is therefore equal to the total volume of money in circulation (including coins, paper currency notes and bank deposits) multiplied by their average velocity of circulation. Herein we meet with the first peculiarity of money. The supply of money will increase when the velocity of circulation of the different pieces of money increases. But potatoes and shoes cannot be said to constitute a greater supply if they change owners more rapidly than before.

These two factors, the demand and supply of money, determine the value of money, or the price level. But this is also the case with any other commodity. There is however, an important distinction between money and other commodities. The elasticity of demand for money is unity, whereas that for other commodities may or may not be equal to unity. This is due to two factors. *First*, the demand for

money is more or less constant during a given period. The volume of goods offered for sale during a period depends on the aggregate volume of production. The latter, in its turn, depends on the amount and

elasticity of demand for money is unity. efficiency of the factors of production, the organisation of production, etc., and not on the value of money. Hence when the supply of money increases, the volume of production, and therefore of the goods offered for sale will not necessarily increase. As the demand for money (*i.e.*, the volume of goods offered for sale) remains the same during a period when the quantity of money changes, a doubling of the quantity of money in circulation would result in a doubling of the price level. In other words, the value of money will be exactly halved. Secondly, the velocity of circulation of money depends on the habits of the people, and on their methods of doing business. Hence it tends to remain constant over a given period of time. Changes in the quantity of money will therefore cause exactly proportional changes in the price-level. In other words, the elasticity of demand for money is unity. But when the supply of (say) oranges is doubled, its value will not be half of what it was, and the people will not want to buy double the number of oranges.

This is the famous quantity theory of money. The theory in its original form stated that the amount of goods to be sold remaining

constant, *i.e.*, the demand for money remaining the same, the price-level varies directly with the quantity of money in circulation. Money meant only coins and paper notes. Account was also taken of the rapidity of circulation of money, *i.e.*, the number of times each coin changed hands during a given period. To put it algebraically, the price-level P could be found by dividing the quantity of money M , and their velocity of circulation V , by the volume of trade T . P was therefore equal to

$$\frac{MV}{T}$$

T

But soon it was found that in a developed community, a volume of credit was also used to purchasing goods. The theory was then modified to include the volume of deposits and their velocity of circulation. The theory was put into an algebraical form by Fisher.*

$$P = \frac{MV + M'V'}{T}$$

T

P is the price-level. M means money in circulation, including coins and paper notes, and excluding bank reserves and other hoards of money. V is the velocity of circulation of money. M' is the volume of bank-deposits withdrawable by cheques, and V' is the velocity of

* Fisher. *The Purchasing Power of Money*. Pp. 152—155.

circulation of bank-deposits, determined by dividing the total volume of deposits withdrawable by cheques by the total amount of cheque payments during a given period. T denotes the volume of trade in goods and services of all kinds sold against money. During normal conditions, at any given time, T , V and V' remain constant; they are independent of the quantity of money. P , the price-level, varies in exactly direct proportion to the quantity of M and M' .

There are two fundamental points in this equation. *First*, P , the price-level changes because the quantity of money changes and not otherwise. *Secondly*, the price-level changes exactly in the same proportion as the quantity of money. According to Fisher, the volume of deposit money is related in a more or less constant proportion with the quantity of cash reserves. As the deposits can at any time be converted into cash, the creation of deposits by banks depends on the reserve of cash possessed by them. The proportion of reserves of cash to deposits is more or less constant. M' bears a constant relation to M , the quantity of lawful money. We have already seen that at any given time, V and T are more or less constant. Hence changes in M will cause direct and proportional changes in the price level. Fisher does not deny that changes in the quantity of money may cause a change in the velocity of circulation of money, or in the volume of transactions. But such conditions are abnormal or transitional. In the long run, under normal conditions, changes in the quantity of money will cause exactly proportional changes in the price-level.

One of the main criticisms that have been levelled against the theory is that it assumes that other things are constant. But other things do not remain constant. The fact that other things *may* change is, however, no ground for rejecting the theory. All scientific theories are based on the assumption that other things remain equal.

The quantity theory can be objected to if we can show that the other things *must* change if either the quantity of money, or the price level (the two variable factors in the equation) changes. It is necessary, therefore, to see whether this actually happens. In Fisher's equation, the velocity of circulation of money and the volume of transactions are assumed to be independent of the changes in the quantity of money and in the price level. But in real life, neither V , nor T is independent of M or P . The velocity of circulation of money is closely related to changes in the price level, increasing during periods of great business activity and rising prices, and decreasing during depressions and falling prices. Moreover, V is also affected by changes in the quantity of money. The volume of transactions T is also influenced by the changes in the price level. Recent studies in the business cycles have conclusively shown that changes in prices are an important influence in determining the volume of production. The quantity of money is also not independent of the other factors in the equation. It is influenced, to some extent, by the changes in the volume of transactions and in the

price-level. Fisher's assumption that M' bears a constant relation to M is also not borne out by facts. The relationship between M and M' is not constant, but varying. Fisher of course recognises all these facts. His reply is that these variations in the other factors occur during the short, transitional periods. In the long run, they remain more or less constant. But as Keynes has pointed out, in the long run, we may all be dead. The usefulness of a monetary theory which disregards business cycles can easily be imagined.

Secondly, it has been argued that the effect of a change in the quantity of money is not simply a proportional change in the price-level as is stated in Fisher's equation. Only under exceptional circumstances, a doubling of the quantity of money will double the price-level. The usual effect of a change in the quantity of money is a "complex series of reactions touching prices, production, and the desire of the community to hold command over real resources." So long as there are unemployed resources, an increase in the supply of money will cause these resources to be drawn into production, and prices may not rise at all. So the proportional relationship between changes in the quantity of money and in the price-level does not always exist.

Thirdly, the theory is also inadequate to explain the processes through which changes in the quantity of money affect the price-level. It does not help us to separate out those factors through which the price-level is determined. "The fundamental problem of monetary theory is not merely to establish identities or *statical equations relating the turnover of monetary instruments* to the turnover of things traded for money. The real task of such a theory is to treat the problem dynamically."* Changes in the quantity of money do not exercise any *direct* influence on prices. They first affect the rate of interest, and through the rate of interest, the prices and the output.

But the most fundamental objection is that Fisher's equation does not measure the purchasing power of money. It determines the average

value of money transactions of all kinds. The major portion of the transactions included in T relates to industrial, commercial and financial transactions. Whereas by the purchasing power of money, we refer to the transactions relating to the purchase of goods and services for consumption. And the latter type of transactions form only a small part of the total transactions included in Fisher's equation. Hence the equation measures not the purchasing power of money, but the *Cash-Transactions Standard*.

The quantity theory has been presented in another form by a group of writers. According to them, the demand for money does not depend on the volume of goods to be sold for money, "but by the ability and willingness of persons to hold currency, in the same way as we think of the demand for houses as coming not from the persons

* Keynes... *A Treatise on Money*. Volume I. P. 133.

who buy and re-sale or lease and sub-lease houses, but from the persons who occupy houses." An individual wants to hold a certain proportion of his income, either in cash or in bank deposits, in order to meet his personal expenditure and to provide for contingencies. Similarly, the merchant and the industrialist want to keep a certain amount of money on hand for purposes of business expenditure. The total amount held in these ways constitutes the demand for money. The supply of money is the quantity of coins, paper currency notes and bank deposits, not the amount that is actually circulating. The idea was however not new. Marshall has shown that this conception of the demand for money can be found in the writings of Petty, Locke, and Cantillon.

In his *Tract on Monetary Reform* published in 1923, Keynes* gave a formula based on this conception. He started from the concept that the people require to hold a certain amount of purchasing power in order to buy a number of what he called 'consumption units,' "made up of a collection of specified quantities of their (the public's) standard articles of consumption or other objects of expenditure." Suppose, k is the number of consumption units which the public find it convenient to hold in cash; and k' the number of such units which the public hold in bank deposits. So k' is the total bank deposits withdrawable by cheques. Let r be the proportion of the cash reserves held by the banks against their deposits; n be the total quantity of currency in circulation and p the price per consumption unit. Therefore

$$n = p(k + rk').$$

The great merit of this line of approach is that it does away with the somewhat crude conception of the demand for money as coming from the goods. Instead of focussing attention on the almost mechanical concept of the velocity of circulation, it brings out the fact that the price-level depends on the people's habits about holding a proportion of their incomes in the form of readily available purchasing power. They thus clearly illustrate the parts played by the decisions of the bankers, regarding the amounts of their reserves, and the decisions of the depositors regarding the proportion of their incomes to be kept in the forms of either cash or bank-deposits in the determination of prices. But the great defect of these lines of approach is that the magnitudes of both k and k' of Keynes' equation are not definitely determinable by statistics.

It should be noted that the differences between the Fisherine type of equation and the Cambridge equation is not as fundamental as is

The relation between Fisher's equation and the Cambridge equation.

generally supposed. The two types of equation represent different views of the same thing from different standpoints. The Cambridge equation focuses attention on the amount of money held in the balances of the individuals at any given time (i.e., "money sitting" in Mr. Robertson's

* See *Tract on Monetary Reform*. Pp. 84-88.

language) with a view to finance their future transactions; Fisher's equation is concerned with the amount of money required by the community during a *period* of time (i.e., "money on the wing" according to Robertson) to finance its transactions. The first refers to a point of time, the other refers to a period of time.

But the most fundamental criticism of quantity theories lies in the fact that they are inadequate to explain the changes in price-level which occur during a trade cycle. According to the theory, all changes in price-level are due to changes in the quantity of money, and the remedy for a period of falling prices is to increase the quantity of money. But after 1929, when prices began to fall rapidly all over the world, almost all governments tried to stop the rot by injecting more money into circulation. But in spite of vast increases in the quantity of money, the prices continued their downward tendency. Increase of money failed to cause the prices to rise.

Secondly, when the boom ends and recession begins, this is not always due to any shortage in the supply of money. The rise in prices may be checked long before there is any dearth in purchasing powers in the country. Periods of depression and falling prices are generally characterised by the existence of surplus purchasing power, and piled up bank deposits. But in spite of that periods of falling prices still continue. The end of a depression and the beginning of a recovery cannot be claimed to be due to causes working on the side of the money. Lastly, it cannot always be said that the quantity of money always determines the price-level. On the other hand the demand for money itself depends upon the height of the price-level and its tendencies to change. Changes in the price-level and in the volume of money in circulation are both simultaneously determined by other factors. A satisfactory analysis of these factors has never been made on the basis of the quantity theory.

Factors governing short-period changes in prices: What are these other factors? Modern economists now try to explain the price changes by reference to the relation between

Effects of saving.

the volume of Saving and Investment. Savings mean the excess of money incomes earned

during a given period over the expenditure on consumer's goods. An individual receives a certain money income during a given period. He may spend the whole of it in buying consumer's goods, or he may spend a part for this purpose, and save the rest. The sum of money incomes thus saved by the members of a community constitutes the aggregate volume of saving. When a community decides to save a larger portion of their money incomes than before, their expenditure on consumer's goods declines. Suppose the total money incomes amount to Rs. 1000 crores, out of which people used to save Rs. 200 crores and spend Rs. 800 crores in buying consumer's goods. Now if the propensity to save increases in the community, they begin to save Rs. 300 crores. That is, they now spend Rs. 700 crores (instead of

Rs. 800 crores) on consumer's goods. Since nothing has happened as yet to change the volume of such goods, their prices must fall. P , the price level of consumer's goods, is therefore determined by the equation $E - S = P$, where E denotes the total money incomes, and S , the volume of saving. Here we should note one thing. When an individual decides to save a larger portion of his money income, his savings may increase. But the aggregate volume of savings will not increase in any way. When the individual saves, his action reduces the incomes of somebody, probably the seller of some goods or services. One man's expenditure is another man's income. When a man spends money in buying goods, the incomes of the sellers of goods are thereby increased. The wages that he pays to his servant or cook constitute his expenditure, but their income. So when one man or a group of men spend less than before, the incomes of some other people are thereby reduced. These people will then be forced to save less. A man will certainly save less when his money income is (say) Rs. 200 than when it was Rs. 400.

The larger saving of the first group of men will be balanced by the smaller savings of the second group. The aggregate volume of savings will not increase in the community. The individual who saves more will of course add to his money balances. His action will cause, not an increase in the aggregate volume of saving, but a reduction in the incomes of other people, and a fall in the prices of consumer's goods. So an increase or decrease in the propensity to save will simply cause a reduction or rise in money incomes and a change in prices.

Let us look to the other side. In ordinary language, investment means the purchase of a government security, or shares or real estates.

But we shall use it in a special sense. Investment means the addition to all kinds of the physical stock of capital goods. When an individual buys the shares of an existing concern, he may be investing in the ordinary language. But as his purchase does not add to the material stock of capital goods, his action will not be regarded as investment. But if he buys the shares floated by the concern to carry out extensions of plants, the volume of investment will increase as a result of his action. What happens when the volume of investment increases in a country? Let us assume that there already exists in the country a certain volume of unemployed resources (not a very unrealistic assumption). When the businessmen decide to make more capital goods, they will begin to employ these unemployed factors of production. The money incomes of these newly employed people will increase. The expenditure on consumer's goods will increase as these men spend their incomes. This may or may not cause a rise in prices. So long as the unemployed resources are drawn into production, the volume of output will increase at the same time and prices may not rise. But usually some rise in prices will take place as it may not be easy to expand the production of all types of goods simultaneously.

Once the stage of full employment is reached any subsequent increase in investment will cause a rise in prices. The rise in prices is thus the result of an increase in investment. The opposite will happen if the volume of investment decreases. Unemployment will increase; money incomes will shrink; expenditure on consumer's goods decreases. This will cause a further fall in investment as the producers of consumer's goods send less orders for machines, tools and other capital goods which are used to make consumer's goods. A vicious circle thus sets in. Employment and money incomes show a further decline. The prices begin a downward trend.

Prices are therefore governed by the propensity to save and the volume of investment during a given period. But the former is generally a stable factor, and remains more or less constant, depending as it does on the habits of the people. So the most important factor determining the price-level is the volume of investment. It affects prices through its influence on employment and money incomes.

It should be noted that this does not mean that changes in prices are caused by an excess or deficiency of saving over investment. The aggregate volume of saving will always be equal to the volume of investment. There is no escape from this conclusion. Let E denote the total money income, which is derived from the production of consumer's goods and capital goods. That is, E is equal to C (income from consumer's goods) + I (income from producer's goods). C , the income from consumer's goods must be equal to the expenditure on such goods incurred by the people. The latter is equal to $E - S$, where S denotes the volume of saving.

Actual savings and investment are always equal.

$$\begin{array}{ll}
 \text{Now} & E = C + I \\
 \text{or} & E - C = I \\
 \text{But} & C = E - S \\
 \text{So} & E - (E - S) = I \\
 & \text{or, } S = I
 \end{array}$$

In other words, savings must be equal to investment. This may appear paradoxical. As a man saves, there is no guarantee that investment will also increase in the same ratio. Hence the plain man concludes that savings and investment may not be equal. But that is not the case. Assuming that a group of individuals save more than before, they buy less consumer's goods than before. The sellers of these goods pile up unsold stocks of goods. In other words, their investment in stocks increases by the same amount as the volume of saving. Moreover, as we have stated before, such increase in savings by a group will cause a fall in the sales of consumer's goods, a fall in money incomes of the producers of these goods, and so a fall in savings. The increased savings of the first group will be balanced by the decreased savings of the producers of consumer's goods. So the aggregate savings may not increase. When the volume of investment increases,

employment will increase; money incomes will rise. Given the same propensity to save as before, the volume of savings will also increase. So savings will always be equal to investment.

But this does not mean that the amount people *intended* to save will always be equal to investment; or the amount that businessmen *intended* to invest will be equal to saving. When the people save more than before, the sales of consumer's goods decline, and the sellers pile up stocks. The volume of investment in stocks increases, and thus investment remains equal to saving.

But the sellers did not intend to make this additional investment in stocks. So the increase in investment that took place was clearly unintentional. Similarly, under full employment, if the volume of investment increases, prices will rise. This rise in prices will force the consumers to consume less than before. They will therefore be forced to save, and the volume of saving will then increase to match the rise in investment. But the consumers did not intend to save in this way. The savings that they are forced to make are clearly unintentional.*

Elasticity of the Demand for Money :† It has been stated before that one peculiarity about the demand for money is that its elasticity is unity. The demand for money is furnished by the people's holding of ready purchasing power both to effect the ordinary transactions of life and to provide for the sudden demands for expenditure. To say that the elasticity of the demand for money is unity, *i.e.* constant, is exactly as saying that the people's habits about holding money are not affected by the changes in the quantity of money. When the quantity of currency is doubled, then provided public's habits are unchanged, they would simply hold double the amount of money to buy the same necessities regarding personal and business expenditure. Therefore the price-level varies in a ratio exactly proportional to the changes in the quantity of currency. There are however cases when the elasticity of demand is not unity. In extreme cases of currency inflation or deflation, the public's habits about holding currency may change. When inflation has been carried beyond limit, and the prices rise to soaring heights, the public may lose confidence in the currency, and hasten to spend their money-balances whose value is rapidly falling, on the durable objects, like gold, whose value seems more stable. Such happened in Germany after the first war. Thus instead of holding increased quantities of money when the supply is increased, the public actually diminish their money-balances. Elasticity of demand for money

* See Ch. 42 for a discussion of the Trade Cycle.

† If we refer to the example given on P. 31 of this book we shall see that the expression—'elasticity of demand is unity'—simply means that the value of a commodity will rise or fall in exact proportion to the decrease or increase in the supply. Following that example, when the supply is doubled *i.e.*, becomes 500 units, the price will be halved, *i.e.*, Re. 1.

falls below unity. Lehfeldt† has estimated that between 1920—1922, the elasticity of demand for money was actually .73 in Austria, .67 in Poland and .5 in Germany. Moreover during the acute phases of crisis, the businessmen may get alarmed and increase their money-balances abnormally, rather than investing in business and incurring losses. The elasticity will not be equal to unity. So also in an agricultural country, like India, the cultivators reluctantly part with their money. When there is an influx of money into that community, the major portion is hoarded by them, and the price-level does not always rise in proportion to the increase of money. Therefore the elasticity of demand for money is not always unity.

Value of Money and Cost of Specie : In the case of other articles we have seen that their value tends to equal their cost of production. Is it also the case with gold? Gold-mining is an industry which is operated under conditions of diminishing returns. Is the value of gold therefore equal to its marginal cost of production? In the opinion of Taussig, such is not the case. "No close correspondence, nor even a rough correspondence, can be made out between the cost of the precious metals and their value."* This is due primarily to three reasons. *First*, the precious metals are extremely durable articles. The amount that had been added in the past does not wear away. The existing stock is therefore so large that the new supplies form a very small part of the total. The annual output and its cost cannot therefore affect the value of gold, except in the very long run. *Secondly*, as an industry, gold-mining is characterised by extreme uncertainty. A man cannot say what is actually within the mine. He has to incur heavy expenses in prospecting and in making the mine productive. Once these investments have been made, the mine has to be kept working whether the price of gold covers the cost or not. For, otherwise the total investment will be lost. Moreover gold-mining possesses an irresistible appeal for the gambling spirits. Chaplin's film 'Gold Rush' is an apt illustration of this glamour of gold-mining. So gold is often mined without any rational calculation of cost and output. *Lastly*, perhaps the larger part of the world's stock of gold has been mined at a loss. It has been estimated that in 1904 about one-half of the companies of South Africa did not pay any dividend. In Australia, out of 96 companies only 16 paid dividends. It is for these reasons that the value of gold is not determined by the marginal cost of production. On the other hand, in his opinion, it is the value of gold which determines which mine will be worked and become the marginal mine.

There is no doubt that in the short period there is no correlation between the value of gold and its cost of production. But over long periods,—what Marshall calls 'secular periods'—the trend of prices

† *Economic Journal*, 1922. Quoted by Keynes—*Tract on Monetary Reform*. The whole discussion is based on that book.

* Taussig. *Principles*. Vol. I. 3rd Edition P. 247. See also Pp. 247-60.

certainly exhibits a correlation with that of gold production. The gambling element in recent times has decreased, and the industry is now managed by joint stock companies, with due regard for profit. And though the annual output forms a very small part of the existing stock, cumulative annual changes in the gold supply will surely affect the price-level. The marginal cost of production of gold is therefore a factor in determining the secular trend of prices. The value of gold, as of any other commodity, tends to equal the marginal cost. The only peculiarity is that owing to the reasons stated above, the establishment of equality between the value and the cost of gold takes a longer time than in the case of other articles. But the correspondence is still there in the secular trend of prices.

CHAPTER 34

THE MONETARY SYSTEMS

A country may make one or two metals as its standard of value. When one metal, either gold or silver, is adopted as a standard of value, the system is known as *monometallism*. If the standard metal is gold, it is known as gold standard. If the standard is silver, it is called silver standard.

Two metals may be combined in various ways as standards of value. When both gold and silver freely circulate as legal tender at a fixed ratio of exchange with each other, and are freely minted, the system is known as *bimetallism*. When both the metals are full legal tender, but one, generally silver is not freely minted, the system is known as the "*limping standard*"; limping because silver not being freely coined, is limping or acting with difficulty. Such a standard was prevalent in France. There is another way of combining the two, if we adopt the suggestion of Marshall. The standard of value would be a fixed quantity of gold combined with a fixed quantity of silver. The government should always be ready to buy this combined bar of gold and silver at a fixed price, but there should be no fixed par of exchange between silver and gold. This system, known as *symmetallism*, was recommended by him as a compromise between gold and bimetallic standards.

In this chapter we shall discuss the features of the gold and the bimetallic standards. Since bimetallism is historically the earlier standard, (it appears as early as the 6th century B.C.) we shall discuss it first of all.

Bimetallism : Bimetallism is a monetary standard when there is a free coinage of both gold and silver at a fixed mint ratio, and when the coins of both metals are unlimited legal tender for the payment of debts. In England, bimetallism was finally abandoned in 1816, though throughout the 18th century gold was the actual standard in England. France adopted it in 1803, and in 1865, it was prevalent in the Latin Monetary Union, consisting of France, Belgium, Switzerland and Italy. In the U.S.A. bimetallism was adopted in 1792. After various controversies, it was finally abandoned in 1900.

The following advantages have been claimed for bimetallism. First, it was argued that it would secure greater stability of prices than was possible under gold standard. The course of

Advantages of bimetal-
lism.

production of both the metals might be more steady than that of the production of one of them. If the output of gold falls, that of silver may rise, and *vice versa*.

In this way, an increase or decrease in the production of one metal would be compensated by an opposite movement of the other. The total output of gold and silver may thus be steady, and the price-level would also be stable, as in the case of two drunken men, who would walk more steadily if they walked hand in hand. The standard consisting of two metals would therefore be more steady than a mono-metallie standard. *Secondly*, it was argued that if all the countries adopted gold standard, the output of gold would fall short of the currency requirements. As a result, we would have a period of falling prices and trade depression. The adoption of bimetallism, by tapping the supply of silver for monetary purposes, would stop this fall in prices. *Thirdly*, the adoption of bimetallism would stop the fall in the price of silver. During the early seventies of the 19th century, and during the post-war period, the price of silver was falling greatly. Such a fall in the price of silver diminished the purchasing power of the silver-using countries of the East which were therefore unable to purchase goods. If silver was remonetised, the demand for silver would increase and so also its price. Such a rise in price would increase the purchasing power of the silver-using countries, and would stimulate their demand for goods and might end the depression. *Lastly*, it was argued that the adoption of bimetallism would secure a fixed rate of exchange between the gold-using and silver-using countries. The rate of exchange between them is determined by the gold value of silver. If the price of silver fluctuates, the rate of exchange would constantly vary, and this fact would introduce a great deal of uncertainty in the trade between the two countries. Under bimetallism, the ratio of exchange between gold and silver would be fixed, and the course of trade between the countries would be smooth.

These arguments are formidable. Regarding the argument about the stability of prices, Taussig's opinion is that after 1850, bimetallism tended to steady the course of prices. But that it would always do so is not sure. What is the guarantee that when gold output will fall, that of silver will increase? What if the courses of their production move in the same way? The fact is that the steadiness of the general level of prices would have to be managed by the central banks. But the great defect of a bimetallic standard is that it would be almost impossible to maintain the mint ratio between the metals in the face of changing market ratios. Suppose at the mint, the ratio is 16 to 1. That is, 16 ounces of silver would be coined into pieces of the same value as one ounce of gold. Suppose further that in the bullion market, 15½ ounces of silver would buy one ounce of gold. Nobody would then take silver to the mint for coinage. Only gold will be presented for coinage; gold is then said to be over-valued, and it will drive silver out of circulation and will become the sole medium of exchange, in accordance with the Gresham's law. Thus as the market price of gold rises or falls, it will go in or out of circulation, and the country will have either gold or silver standard alternately.

But there are some compensatory tendencies. Suppose gold is overvalued at the mint, and everybody is presenting gold for coinage. The supply of gold as bullion in the market will fall off and the supply of silver as bullion will increase. The result will be that the value of gold will fall and the mint ratio and the market ratio will come closer to each other. Thus there is a tendency under bimetallism for the automatic maintenance of the gold-silver ratio. But if there is a strong tendency towards the continuous increase in the output of one metal, and therefore towards a fall in its value, that metal will drive out the other from circulation.

If several important countries adopt the standard, there is a greater chance of keeping the ratio between the two metals stable. If all the countries adopted the same ratio, export of either gold or silver would be checked as no profit could be obtained by such action. Consequently Gresham's law would not be in operation. International bimetallism would thus ensure the simultaneous circulation of the metals at fixed ratio.

Bimetallism, therefore to be practicable, must be international bimetallism. And therein lies the greatest hindrance to the introduction of bimetallism. Towards the end of the 19th century, two international conferences were convened with a view to the adoption of bimetallism. But both of them failed. "Great Britain at no time was willing to accede . . . without Great Britain, Germany would not come in; without at least one of those countries, the United States would not. Whatever the abstract possibilities of united bimetallism, the project never had a working prospect of realization."*

There are also other difficulties of bimetallism. It would introduce great confusion in all business transactions. If one of the metals is undervalued in the market, the debtors will want to pay in that metal, while the creditors will of course want payment in the overvalued metal. As a result, all transactions will become uncertain and confused. Moreover, though ultimately the mint and the market ratios would come together, yet there might be intervals when the two ratios will not be equal. The speculators will then hold the undervalued metal in the hope of profiting from the later rise in its price. Thus there would be constant speculation in the bullion market. The fact is that whether under gold or silver, the monetary standard would have to be managed by the central banks so that its value might be stable. We have enough trouble in linking our fate to one metal. It is no use complicating the mechanism and increasing the troubles of management by tying us on to two metals.

*Taussig. *Principles*. Vol. I. 3rd Edition Pp. 282-3.

GOLD STANDARD

The essence of the gold standard is that the currency authority should be ready to buy and sell gold at a fixed price in terms of local currency. So long as this is done the value of a local currency cannot deviate from the value of gold. The essential features of the gold standard were somewhat different in different countries. Moreover, after 1920, the theory and practice of gold standard have undergone changes,—some of them for the better, and others for the worse. We shall first of all discuss the features of gold standard which functioned before 1914.

Gold standard was based on the free coinage of gold. Its normal features were the following :—(a) The standard money was defined as a fixed weight of gold, and this gold coin circulated as full legal tender. Thus the sovereign contained 123·2744 grains of gold (eleven-twelfth fine) ; Franc, 497806 grains (nine-tenth fine). All other forms of circulating media, *viz.*, notes, etc., were freely convertible into gold coins. The result was that the total quantity of coins was dependent on the quantity of gold available in the country. (b) The currency authority was, by law, required to buy and sell gold at fixed prices for minting into coins. The buying and selling prices may be slightly different. For example, the buying price of one standard ounce of gold in terms of sterling was £3. 17s. 9d., and the selling price was £3. 17s. 10½d. The result was that the price of gold bullion could not depart from these figures. (c) There was free export and import of gold. The result was a tendency towards equality in the price of gold in all countries. If the price was higher in one country than in another, gold came to be imported into the first country. Prices rose in that country owing to the increase in the supply of gold, while they fell in the second country owing to the export of gold. There was therefore a tendency towards an equalization of the prices of the different countries through gold movements.

Some important changes were brought about in the mechanism of the gold standard after 1924. First, gold coins were withdrawn from circulation in all countries. The monetary authorities were placed under obligation to convert the local currency, not into gold coins, but into gold bullion. This standard is known as the gold bullion standard. It secured a great economy in the use of gold. Secondly, the central bank in many countries began to hold part or whole of their reserves against notes and deposits in the form of bills, drafts and deposits in a foreign centre. This type of standard is known as gold exchange standard, and it secured great economies in the use of gold.

Varieties of gold standard: So there were three varieties of gold standard. The first variety which prevailed before 1914 came later to be known as *gold circulation* or *gold currency standard*. Under

this system, gold coins containing fixed weights of gold circulated within the country. All other forms of Gold currency standard. currency, *viz.*, non-gold metallic coins, paper currency notes, etc., were convertible on demand into gold coins at fixed prices. There was also free coinage in gold, and export and import of gold were completely free.

But after the first world war, this type of gold standard was given up, and a second type was adopted. This variety is known as the *gold bullion standard*. Under it, gold coins do not

Gold bullion standard. circulate within the country. The actual currency consisted of paper currency notes and token coins, and these were convertible at fixed rates into gold bars containing a fixed weight of gold bullion. In England, the bank notes were convertible into gold bars containing 400 oz. of gold at the fixed price of £3. 17s. 10d. per oz. eleven-twelfth fine. India adopted it in 1927, when the Controller of Currency was under obligation to give, in exchange of rupees, gold bars containing 40 tolas at the price of Rs. 21. 7as. 10p. per tola.

The third type of gold standard is known as the *gold exchange standard*. It was evolved before the first world war in India and other eastern countries. It became very popular

Gold exchange standard. after that war when, owing to their poverty, many countries found it difficult to adopt the full-fledged gold standard. Under this standard gold coins do not circulate within the country. The local currency, consisting of bank notes and token coins, was convertible into foreign exchange based on gold at a fixed ratio. India, which was on this standard before 1917, maintained a large reserve in London, and the rupee coins were convertible into sterling (which were gold coins) at the ratio of 1s. 4d. per rupee.

How the gold standard works : The working of the gold standard can be illustrated in this way. Suppose gold coins are the only media of exchange within the country.

Functioning of gold standard. Therefore, given the volume of goods, the price-level was determined by the amount of gold coins in circulation, which were in their turn dependent on the supply of gold in the country. In practice there are other media of exchange, like notes and bank deposits. Their presence however does not alter the fundamental forces at work. The volume of note issue was usually kept in a fixed relation to the gold reserves, and the volume of bank deposits also bore a more or less fixed proportion by law or by custom to the reserves of the banks,—though the relationship was not as exact as in the case of note issue. Therefore the total volume of currency in a country was connected in a more or less rigid relationship to the gold reserves. When gold was imported into the country, the volume of currency increased and prices rose, and *vice versa*

when gold was exported. The connection between gold movements and the price-levels was not however as automatic as was assumed in these lines. It was modified by the credit policy of the banks, particularly of the central banks and their bank-rate policy. When the bank-rate was higher, borrowing was checked and the prices fell. Conversely when the bank-rate was lower, prices rose. In practice, the central banks in pre-war days changed their bank rates in accordance with the changes in their gold reserves. When gold reserves dwindled owing to the export of gold, the bank-rate was put up. The prices fell. Similarly in the country which gained gold, the bank-rate was lowered, and prices went up. In this inter-connection between the gold movements and price-levels lies the so-called automaticity of the standard.*

Externally, the countries adopting the gold standard possessed stable rates of exchange determined by the gold contents of the coins. When, owing to an adverse balance of trade, the actual rate deviated from this par of exchange by more than the cost of sending gold, it would be exported from that country, and its price-level would fall. Since everybody prefers to buy where prices are low, its exports will increase; and to sell where prices are high, its imports will decrease. The balance of trade will improve and the rate of exchange will move towards par.

This is an outline of the way in which gold standard worked under the simplest conditions. It has been claimed by many writers that gold

How far gold standard is automatic in operation? standard was automatic in operation, and that there was scarcely any element of management in the working of the gold standard. But this is a misreading of the actual working of gold standard. There was actually a large degree of management even during the period before the first world war. There was no automatic relationship between the volume of bank deposits and the gold reserves. The movements of gold between different countries were modified to some extent by the actions of the central banks. In fact, it is now admitted that much of the success of the gold standard before that war was due to the predominant position occupied by England in the world's money market, and the prudent utilisation of its position by the Bank of England.

The degree of management increased considerably before the last war. Increasing use was made of the open market policy evolved before the first world war. It was also perceived that

Gold standard is a managed standard. attempts should be made to keep the prices stable as far as possible with central banking methods. And the need for management increased considerably in the inter-war years. Owing to reductions in the costs of gold transports, the difference between the two gold points became narrower. This made the currency systems more sensitive to international disturbances.

*Dr. F. Mlynarski. *The Functioning of the Gold Standard*. P. 15.

A slight disturbance in any country, or a small change in the rates of interest would now lead to gold movements. The existence of a large volume of international short-loan funds threatened serious dangers to the stability of economic systems. The investor on the continent with keen fears of inflationism in his mind, would not risk his earnings in long-period investments. Anything which would excite his distrust would lead him to move his funds from one country to another considered more safe. Hence the constant movement of these funds between different centres rendered the task of the Central Banks very difficult. In their anxiety to protect the domestic money market, and to secure reasonable stability, the Central Banks began the practice of "sterilising" unwanted gold imports by the sale of government securities. Exports of gold were not allowed to affect prices as these were "offset" by the purchase of securities in the open market. Gold movements thus ceased to exercise any influence on the price-level. And the gold standard became a fully managed standard.

It is necessary at this stage to discuss what came later to be known as "the rules of the gold standard game." There are two fundamental

Rules of gold standard game.	rules which are to be followed to make gold standard successful. The first is that gold movements should be allowed to exercise their full influence on prices. When gold comes in, credit should be expanded. When gold goes out, there should be a contraction of credit in that country. Secondly, the financial and commercial policies of each country should be so devised as to make adjustments of balances of payments and the real transfer of net payments possible and smooth. The creditor countries should be prepared to allow an excess of imports over exports, and should not take such steps, either by tariffs or other methods, to cut down the volume of imports through which debtors would be paying their debts.
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Break-down of the Gold Standard : None of these rules were observed in the working of the gold standard in the inter-war years. Almost all countries violated the first rule. Gold movements were not allowed to exercise their natural influence on prices. England which was continually losing gold during this period, took steps to offset effects of these movements on the domestic price-level through the purchase of securities. The U. S. A. which was receiving large imports of gold, sterilised these imports with a view to keep prices stable. The second rule was also violated by the three most important countries, England, France and the U. S. A. It is admitted on all hands that when England returned to gold at its old parity, there was considerable over-valuation of sterling in relation to dollar by about 10 per cent. Though the rate of exchange was fixed at a high figure, wages and other money costs had not fallen in that country to a sufficient degree. It was necessary therefore that England should take steps to lower her wages and other costs. But that adjustment was never made. Her economic system proved too rigid, and the authorities had not the

courage to force down wages. The result was that her exports could not compete in the world markets in view of her high costs. There was therefore a constant tendency towards unfavourable balance of trade and towards gold exports. Gold standard pre-supposes a flexible economic system, where prices should move in accordance with gold movements. No wonder that with inelastic prices and costs, England was the first country to give up gold standard.

France had, on the other hand, under-valued her currency when she returned to gold. As a result, she developed a large foreign surplus. This surplus ought to have been invested abroad if equilibrium was to be maintained. But the French investor was not willing to lend his money abroad. Only a part of the foreign balance was lent abroad in the form of short-term deposits, and the remaining portion was brought into France in the form of gold. France absorbed large quantities of gold during this period. But these imports were not allowed to raise the price level. The U. S. A. emerged as the creditor country after the first world war. The creditor country must be ready to receive her payments in the form of imports of goods. But America became violently protectionist during this period, and shut out imports by a high tariff wall. The debtors were therefore forced to send gold. But these gold imports were not allowed to exercise their influence on prices.

These were two most important reasons for the breakdown of gold standard after 1931. "A world which has not learnt to observe the rules of the gold standard game should not expect a smooth functioning of that standard. There were also other equally important reasons. The maintenance of the gold standard became a highly complicated task during this period. The shortening of the gold points made the currency system of each country extremely sensitive to every passing wind which blew in the international money market. And at the same time the number of storms and stresses increased considerably during this period. The constant movements of large volumes of international short-term funds (justly called "bad money") between different countries brought excessive strain on the delicate machinery of gold standard. In fact the immediate occasion for the break-down of the gold standard in England in 1931 was caused by such an withdrawal of short-term funds as a result of an international banking panic. In addition to these, a number of changes occurred in the economic system of the world which were not favourable to the smooth functioning of the gold standard. The war left a legacy of debts and reparations. The payments of these threw a great strain on the mechanism of international trade and exchange. The debtor countries began to lose gold and so adopted restrictive measures in self-defence. Not only were the economic difficulties serious, but the political tension and the uncertainty resulting from the forced payment of reparations rendered the smooth working of the economic system an impossible task. Another important cause has been the development of an acute

protectionist feeling in almost all countries. The erection of huge tariff walls made the payment of war debts and reparations impossible.

The cumulative result of all these causes was the break-down of the gold standard in all countries of the world. An international standard cannot be worked successfully in a mad nationalist world.

Merits and demerits of gold standard : The main advantage of gold standard is that it provides a country with a currency which is universally acceptable. The gold standard is the only international standard the world has ever known. Other benefits have also been claimed for gold. By ensuring that the local currency should be convertible into gold, it puts a limit to the amount of money that the authorities can issue. They cannot issue more paper currency notes unless the gold reserves kept against these notes also increase. For all the countries of the world, the total amount of money that can be issued by them depends on the total amount of gold produced from the mines. Hence so long as a country is solidly linked with gold, there is no chance of an excessive issue of paper currency. In this sense, gold standard was regarded as "fool-proof" or "knave-proof". It was also claimed that it provides an automatic monetary system. In the past, when a country has been divorced from gold, the result has been a mis-managed money that has seriously disturbed its economic life.

Thirdly, it secures comparative stability of prices. Unlike other commodities, the output of gold, on which depends the whole of the circulating media, is not subject to seasonal or other short-period fluctuations. Had wheat been adopted as the standard, a poor harvest in one year would have seriously diminished the reserves of the banks, and the price-level would then have become dislocated. But on account of its extreme durability, the existing supply of gold is so large that the annual output is but a small fraction of total output and its supply is therefore relatively more stable than that of any other commodity. Gold prices, it is claimed, enjoy a greater degree of stability.

Another important advantage is that gold standard secures the stability of foreign exchange rates. The great merit of this stability becomes at once apparent when we see how its absence, owing to the breakdown of the gold standard, has checked the development of international trade in recent times. This stability of exchange rates also secured a certain harmony in the movements in the price-levels of different countries.

A close examination of these merits will show that many of them are of doubtful validity. We have already seen that gold standard is not an automatic standard. The Central Bank has to manage the monetary system to remain on gold standard. And to remain on gold standard is not always a simple or easy task as France found

It does not check inflation.

during 1934-36. The severity of the trade depression which set in after 1929 was due to a large extent to the attempt made by different countries to stay on the gold standard. A fool-proof standard may therefore be a foolish standard. Gold standard does not serve as an effective guarantee against inflation. It ties down the value of the currency to that of gold. If the value of gold falls as a result of the large output of gold, prices will rise.

Secondly, the gold standard did not establish stability of prices either over time or over space. If, year after year, the output of

It does not secure the stability of prices over space or time. gold continues to increase or decrease, the prices will rise or fall over a long period. In fact, such has been the experience of the

world throughout the nineteenth century. Between 1849 and 1874, prices rose because the new mines in Australia and California increased the supply of gold. Between 1874 and 1896, prices fell because of the decrease in the production of gold. Similarly, the internal prices in different countries, though interconnected with each other through gold movements, showed considerable ups and downs in the conditions of trade and finance.

The future course of prices is also highly uncertain under gold standard. Prices are likely to be upset by "the discovery of new mines or processes of mining, by a decision on the part of some states to achieve gold standard, or of some other states to abandon it, by a sloughing off of the hereditary taboos of the Indian ryot, or the London banker."*

Another disadvantage of gold standard is that it limits the discretion of the monetary authorities. Gold standard requires that the

It limits national autonomy. countries owing allegiance to it must move in unison. So a country which adopts gold

standard has to surrender its authority in monetary matters, and to move in step with other countries. It has to follow the average policy, or the average rate of contraction or expansion. But this may often go against its interests. Adherence to gold standard may make it impossible for a country to pursue a policy of capital expansion in order to achieve full employment after a depression.

Managed Money: The expression refers to that monetary standard where the value of money is managed by the Central Bank according to a particular plan. In that sense, all monetary systems are now managed. The term is however generally used to mean that monetary system where inconvertible paper money circulates, and where the currency system is managed by the Central Bank in accordance with a plan of monetary stability. The advocates of this standard claim that it will avoid all the defects of the gold standard. The Central Bank can control the movements of prices, untrammelled by

* Robertson, *Money*.

any necessity of keeping sufficient gold reserves. It will be able to keep prices stable if that is considered desirable. This system will also ensure sufficient freedom for each country to manage its own affairs in its way, unhampered by the necessity of moving in unison with others.

It thus enables a country to enjoy the blessings of autonomy in monetary affairs. But the great defect of this currency system is that it will give us fluctuating exchange rates. Under gold standard, the rates of exchange fluctuate within the small limits of gold points. But there are no limits to the fluctuations of the exchange rates under the inconvertible paper standard. Fluctuating exchange rates will hamper the smooth flow of international trade and investment. Lastly, it is liable to over-issue, and to sudden fluctuations in value.

Recent experience with inconvertible paper currencies does not bear out the truth of these criticisms. Prices were comparatively more stable in England which had inconvertible paper money than in France which was on gold during the years 1931-36. Large fluctuations in exchange rates can be easily avoided by the manipulations of funds like the Exchange Equalisation Accounts, and by means of a well-organised forward exchange market.

CHAPTER 35

CREDIT

What is credit? Etymologically the word 'credit' means 'giving in trust' or 'trusting'. A credit exchange is best understood by considering what is a cash transaction. In a cash transaction, the goods are sold and cash is paid at once. Whereas in a

The basis of credit is confidence.

credit transaction, the goods are sold, not against cash, but against the promise to pay cash at a later date. Since in a credit transaction, cash payment is to be made at some future date, it involves trust on the part of the person giving credit. The basis of credit is confidence. The lender must have confidence in the borrower that he will be able to repay as promised, and that he has the intention to repay.

Credit exchange possesses certain superiority over money exchanges. The introduction of money remedied many defects inherent in the barter system. But there are certain difficulties in the system of money exchange. We are all willing to accept money; but suppose

Functions and utility of credit.

we have sold fifty thousand rupees' worth of goods, we would not be willing to accept actual money in exchange. Such a huge sum of rupees would be very inconvenient, and the danger of guarding it would be very acute. Moreover, if we have bought goods worth many thousands at a great distance, consider the expense and the danger of transporting so much money to deliver to sellers. These difficulties are obviated by the use of credit.

From the standpoint of the ultimate use of credit, it may be classified into consumption credit or production credit. The borrowed credit may be consumed at once. In that case, it is known as consumption or consumer's credit. Many shopkeepers grant credit to their customers who are unable to pay cash. The system of hire purchase or instalment buying is also an instance of such type of credit. Credit may be so invested as to yield a surplus over and above what is required to be paid by the borrower. Credit then performs the function of capital and may be considered to be an equivalent to an increase of capital. This type of credit is known as production credit.

Credit has further been classified into commercial credit and bank credit. The former refers to that type of credit which is used in financing the manufacture and marketing of goods. A wholesale dealer may agree to sell goods to a retailer on the understanding that the latter will pay his dues within three months. That is, he has granted commercial credit to the retailer. *Hundis*, bills of exchange, are good

instances of instruments of commercial credit. The essence of *bank credit* may be found in the answer to the question, 'where do the banks get the money they lend'. A bank with a cash reserve of Rs. 10,000 is able to lend at least 5 to 6 times (if not more) that amount. This is possible because the depositors and the public have confidence in the bank's solvency. The bank therefore lends its credit. Bank notes are good instances of such credit.

Credit and Prices : Mill and following him other writers, held that as credit was as good purchasing power as cash money, the effect of creation of credit was to raise the price-level to the same extent as cash did. In the exchange, wheat and jute futures are equally instrumental in fixing prices as is sale by cash. Therefore they establish the identity between cash and credit.

Walker, Laughlin and others on the other hand hold that credit has no influence on price-level. They hold that credit has purchasing power but no liquidating power. Ultimately the payment must be made in cash so that the sale might be completed. The debts created are ultimately cancelled by cash.

The truth seems to lie midway between these two extremes. If confidence in all credit transactions were complete, if actual money were never demanded in payment for the credit transactions, credit instruments would be perfect substitutes for cash transactions. But the truth is that there is never such complete confidence in credit transactions. The credit instruments are sooner or later presented for liquidation in cash. Banks have to hold a certain proportion of cash in readiness for meeting the demand of depositors. From experience bankers know that only a certain proportion of the total amount of credit created need be kept in cash. The price-level goes up by the extent of credit created and put into circulation, but as a certain proportion of cash money has to be withdrawn from circulation in order to meet the demand of the depositors, the price-level is depressed to that extent. However, as reserves are held only in a certain proportion of total credit, the net effect is a rise in the price-level, though not to the same extent as warranted by the creation of cash money.

Types of Credit Instrument : There are various types of credit instruments in vogue in a modern community. These may be (a) cheques, (b) bank notes, (c) government notes, (d) bills of exchange, (e) promissory notes, (f) banker's draft, (g) book credit, etc.

(a) A cheque is an order by a person on a bank to pay the bearer of the cheque a certain sum of money out of his deposits. A cheque is a credit instrument so long as it is not presented for encashment. It also rests on the confidence of the payee both in the person who draws it and in the bank on which it is drawn. (b) Bank notes are issued by banking institutions. A bank note is simply a promise by the bank to have it converted into legal tender on demand. Bank

notes have circulation among those members of the public, who have confidence in the solvency of the bank. Notes of well-known banks have easy circulation and are often legal tender. Note issues are nowadays regulated by law, and in most countries only the Central Bank has the monopoly of note issue. (c) Government notes are similar to bank notes, except that they are universal legal tender. So long as Government notes are convertible, they are regarded as good as standard money or gold. They are based on the confidence of the public in the Government that it is able to convert them into standard money as soon as presented. (d) A bill of exchange is an order made by a seller of goods upon the purchaser of goods to pay the stated amount of money after a definite period of time. The bill of exchange differs from a cheque only in this that cheques are payable on demand while bills are to be paid after a stated period. 'A cheque is a bill of exchange payable on demand.' (e) A promissory note is a note featuring a promise of the borrower to the lender, perhaps supported by the guarantee of some third person in whom the lender has confidence. Most often the lender or the bank deducts the stipulated amount of interest from the sum and then advances the remaining amount to the borrower. (f) A banker's draft is a cheque drawn by one bank upon another. It is drawn when one bank takes a loan from another, or a bank is given accommodation in time of distress. (g) Book-credits are effected when a tradesman sells on credit or a bank advances money, the sale or advance being entered into the account books of the tradesman or of the banker. These book entries are legally recognised as evidences of credit and even so when they are not endorsed by the debtors. These book-credits are granted on a large scale by businessmen to each other and occasionally set-offs are made, the balance being paid in cash. This practice of set-off reaches its high water mark in the system of clearing houses for the banks. There are other types of credit instruments such as bonds and debentures of joint stock companies, which are all negotiable instruments and find ready market whenever needed.

Paper Money : The term 'paper money' denotes bank notes and government notes which have easy circulation. It does not include cheques or bills of exchange which have merely a limited circulation. It is generally issued by the Central Banks, but in some countries paper notes are issued by the Government.

Paper money may be either *convertible* or *inconvertible*. *Convertible paper money* is redeemable into standard metallic money or bullion on demand. The backing of such convertible paper money consists of a small amount of metallic money or other legal tender money. From practice it has been found that only a small portion of the outstanding notes is presented for redemption at any particular time; hence only a small proportion of the actual amount of notes issued is kept by the note-issuing authority in cash or standard money as

necessary. Another kind of convertible paper money may be simply a *certificate of deposit*, where the metallic reserve held is exactly equal to the nominal value of the notes issued. An example of such certificate of deposit is the gold and silver certificates of the United States.

Inconvertible paper money consists of notes for which standard metallic money or bullion cannot be obtained on demand from the issuing authority. Inconvertible paper money is generally issued by governments. They may also be issued by Central Banks in times of emergency by the suspension of the Act under which they are legally obliged to convert their notes into full-bodied money. Inconvertible *paper money* is called *fiat money*, because its use and value depend on the command of the government. It has circulation only because the public have confidence in the government that it will be able to maintain its value.

Advantages and Disadvantages of Paper Money: The advantages of the use of paper money are manifold. *Firstly*, by the use of paper, there is an economy in the use of metallic money. In no country is an equivalent reserve of gold or other full-bodied metallic money kept by the note-issuing authorities. There is invariably an uncovered portion of note issue, and to that extent the country in question is saved the cost of securing gold or silver. If any country uses inconvertible paper money, the cost of monetary circulation to it is almost nil and in this respect it has an advantage over other countries. *Secondly*, paper money, even when fully convertible, reduces the loss to the community through the wear and tear of coins by constant use. *Thirdly*, any one can carry with him paper money of any value without any difficulty, large payments can be made through it and it can be sent to long distances without much cost.

The *disadvantages* of paper money are also not negligible. *First*, the temptation to over-issue is too much with a government in difficulty. If there be too much over-issue, the paper-money becomes inconvertible and depreciates in value in terms of full-bodied metallic money. *Secondly*, some difficulty is introduced in foreign transactions by the use of paper money. Foreigners do not accept paper money of other countries. Those who have to make payments to foreigners can export full-bodied metallic money, but there is no such advantage when paper money is used. *Lastly*, the value of paper money is more unstable than the value of commodity money. The value of standard money fluctuates with the value of the metal; whereas the value of paper money depends upon the quantity of money issued. As the value of inconvertible paper money is generally unstable, rates of foreign exchange also become unstable, hence the external trade of the country may suffer.

Principles of Note issue: As regards the principles on which note-issue should be based, there are two different schools of view:—the currency theory and the banking theory. Before the Bank Charter Act of 1844 had been passed in England, two schools had

sprung up regarding the true principles of note-issue. The exponents of the *Currency Theory* held that notes are issued only to provide an economical substitute for gold coins; but in order to ensure full convertibility of these notes, gold should be kept by the note-issuing authority to the full value of notes issued. If a full backing of gold for

The *Currency Principle*. the notes issued is lacking, it may not be possible to convert them at times, and people may lose confidence in such notes. According to this school, note-issue should be limited to the amount of gold held by the issuing authority and the quantity of note-issue will automatically expand or contract with the inflow and outflow of gold into and out of the country. Thus the expansion of currency will be automatic and will not be dependent on the whims of issuing authorities. This theory misunderstood the role of credit. Credit is a good substitute for metallic currency, and that with its help the total monetary circulation of the country can be expanded whenever required. One merit of a good currency system is elasticity, and that cannot be ensured if the currency principle of note-issue is followed.

The exponents of the *Banking Principle*, on the other hand, maintained that from experience it was found that only a certain proportion of the actual notes issued need be kept covered by the issuing authorities in gold coins. If there is an excessive

Banking principle. issue of notes, they will be returned to the bank for encashment, and if an adequate reserve is kept, perfect convertibility will be ensured. Further such a principle has the merit of elasticity. The total monetary circulation can be expanded or contracted according to the needs of trade, which can be best gauged by the bankers and expert financiers.

Though the currency principle was accepted in the Bank Charter Act of 1844, subsequent history revealed the wisdom of the banking principle. The vast expansion of England during the latter half of the 19th century was possible only because of the adoption of the device of cheque system—the adoption of which nullified to some extent the mischief done by the acceptance of the currency principle by the Bank Charter Act. But we should remember that the exponents of the currency principle of note-issue were warned by the history of many joint-stock banks during the earlier half of the nineteenth century, when many banks came to grief by over-issue of notes without sufficient reserve.

Systems of Note Issue : In accordance with the currency principle, various limitations have been placed on the right of note issue. In this section, we shall review these limitations:

(1) *Fixed Fiduciary System*. Under this system, the Central Bank is allowed to issue a fixed amount of notes without keeping any gold reserve. This portion is called fiduciary issue and it is backed by government debts or securities. Notes issued above this amount must be backed by 100 per cent. reserve in gold. This system pre-

vails in England, where under the Bank Charter Act of 1844, the Bank of England was allowed to issue notes up to £14 million without gold backing. This limit was raised to £260 million in 1928 and to £300 million in 1939. The object of this system is to provide adequate reserves for securing the convertibility of notes. But this has made the currency system inelastic. Currency could be expanded, not in

response to trade requirements, but only when gold reserves are increased. In times of crisis or panic, when there is an urgent need for the expansion of note issue to meet demands of the panic-stricken people, the provisions of the Act have to be suspended so as to give the Bank unlimited power of note issue. Further, it locks away a vast amount of gold unnecessarily. Owing to these reasons, the Macmillan Committee urged the abolition of this system.

(2) *Maximum Fiduciary System.* Under this system, a maximum amount is fixed upto which the Bank can issue notes without any gold reserve, and this maximum is generally well above the average annual circulation of notes. Further, this maximum is raised from time to time, as the business expands and the needs for currency increase. This system was prevalent in France before 1928, and it was recommended by the Macmillan Committee for adoption in England. The great merit of this system is that it does not lock away gold unnecessarily and leaves the question of reserve absolutely to the discretion of the Bank.

(3) *Proportional Reserve System.* Under this system the Central Bank is required to keep a certain percentage, generally varying from 25 to 40 per cent. of gold reserve against the note issue. This system became fashionable after the war and France adopted it in 1928. The system had been recommended for India by the Hilton-Young Commission, and it had been incorporated in the new Reserve Bank Act. The only merit of this system is its elasticity. Against one gold coin in the reserve, three notes can be issued if the ratio prescribed is one to three. But any contraction of currency would also be violent. When one gold coin is withdrawn from the reserve, three notes have to be cancelled, whereas under the other system, only one note has to be cancelled. Moreover, the system locks away unnecessarily a huge amount of gold which is quite

Defects of the system. unavailable for purposes of conversion. Now suppose the Bank keeps just one-third reserve in gold and then one note is presented for conversion. If one gold coin is paid, the total reserve would then be less than the legal proportion required. Therefore the Bank cannot then convert its notes without breaking the law. The system is similar to the regulation that there must always be one cab at the station so that passengers could always be sure of getting one. Suppose there is only one cab and a passenger alights. The cab cannot leave the stand and the

passenger's position would be the same if there were no cab at all. The system is thus clearly indefensible.

(4) The fourth method is a variation of the third. The central bank is allowed to hold part of its reserve in "foreign exchange" (devisen), including foreign currency, deposits in foreign banks, bills, etc. The foreign currency must of course be on gold standard. Thus the Indian Reserve Bank can keep part of its reserves in sterling bills. This method is adopted to secure an economy of gold. So far as this is a variation of the third system, the objections stated therein are valid against it. Occasions may arise, in times of panic, for the issue of emergency notes. In England, when a crisis occurs requiring the issue of a great amount of notes, the Bank Act is suspended and the Bank of England is empowered to issue as many notes as are necessary to restore confidence. In Germany, where the third and the fourth methods prevail, the reserves of the Reichsbank may fall below the legal ratio provided a tax on the deficit is paid.

The Right Principle of Regulation: The question can be divided into two sets of problems. The first is concerned with the question—whether there should be any legal provisions tying the amount of note issue with the amount of metallic reserves. And a second question is, what is the right amount of metallic reserves that a central bank should be kept to meet its obligations? Regarding the first question, it is best not to fetter the discretion of the central bank in any way with regard to the note issue. Now that gold coins have been withdrawn from circulation, notes will be presented for conversion into gold bullion mainly for export purposes—to meet an adverse balance of trade.

There should be no connection between gold reserves and note issues. Hence it is desirable that the reserves should not bear any relation to the volume of note issue. When it is thought undesirable to limit the discretion of the central bank with regard to the volume of credit in any way, what logic is there in rigidly limiting the issue of notes? It is also desirable in the interest of price-stability to give the Bank full discretion with regard to the management of its gold reserve and not to tie it in any way with the note issue. When we are laying upon the central bank the highly important duty of regulating the volume of credit and the price-level, why should we not trust in its capacity to maintain adequate reserves against note issue? The right principle is therefore to lay down that the amount of gold reserves should bear no relation to the volume of note issue. But to provide against the ultimate danger of over-issue, it might be useful, following the French system before 1928, to fix the maximum amount of notes that can be issued. This maximum should be well above the average amount of note circulation, and should be revised from time to time. Moreover, it might be necessary to decree that the Bank should keep a minimum amount of gold reserve, partly in order to inspire public confidence and partly as an ultimate reserve to be used only on grave national occasions. Ex-

cepting these two limitations, the central bank's discretion in the issue of notes should be free.

The answer to the second question depends on the proper appreciation of the functions of gold reserves in monetary system. Formerly gold reserves were kept for the purpose of converting paper notes into gold coins. But since gold coins have been withdrawn from circulation, there is necessity for keeping any gold reserves for this purpose. The existence of gold reserves, assuming of course the establishment of gold standard, is now seen to be necessary only as a medium of exchange in international payments. The amount of gold reserves should therefore depend, not on the amount of note issue, but on the extent of any possible adverse balance of payments. The reserves should be sufficient to enable the Central Bank to meet a short period adverse balance of payments before it is able to correct the situation by adopting suitable remedial measures. Thus calculated, gold reserves would vary from one country to another. Countries which are international banking centres, or which are heavily indebted, or which depend on a relatively small number of goods for export purposes would require larger reserves than others.

CHAPTER 36

BANKING

Definition of Bank : Just as we define money by its functions, so the best definition of a bank is by its functions. A banker is a dealer in credit;—he borrows from the members of the public, and lends to merchants or manufacturers. He borrows by accepting deposits, and lends by way of advances against goods or securities or by discounting bills. A bank is therefore a person or a corporation that deals in credit, *i.e.*, accepts deposits from the public, withdrawable by cheques, and advances loans of various sorts.

The system of banking is very ancient. It was prevalent in India, Greece and Rome. It arose out of the logical fact that people who possessed surplus coins deposited them for safe-keeping with persons in whom they had confidence, payable after a period of time when the need would arise. The holders of these surplus coins soon found out that it was profitable to lend the money, provided the loans were repaid before the date when money would be demanded. Probably the bankers, as they really were, gave signed papers to their depositors as evidences of the deposit of money. As people had confidence in the integrity and solvency of the bankers, these signed papers would pass from hand to hand in settlement of transactions. Seldom many of would be presented for repayment to the bankers. These papers were the origin of notes. And as people had confidence in the credit of the bankers, only a small proportion of the notes would be presented for encashment during a period. The latter were able to lend out the major portion of their deposits with safety, thus earning a decent profit with other people's money. As the business of lending became more and more profitable, the bankers began to offer interest on the money deposited with them, at a rate lower than that obtained on loans—the difference constituting their profit. In course of time cheques were adopted, and this imparted a great elasticity to the system.

Thus came into existence the system of what is known variously as deposit or commercial banking. It should be noted that when using the term 'bank', we shall refer to commercial banks, *i.e.*, banks which deal in short-period credit only. There are also other types of banks, such as Savings Bank, Investment Bank, etc.

Functions of Bank : A commercial bank is a dealer in short-term credit. It collects the surplus balances of the individuals and finances the temporary needs of commercial transactions. The first task is therefore the collection of the savings of the public. This the bank does by accepting deposits from its customers. Deposits arise in two

(a) It collects the savings of the public.

ways.—First, the members of the public bring legal tender money to the bank which then credits them with a deposit account in its book, withdrawable by cheque. Or, the deposits may be created

by the bank itself by giving loans to its customers. The borrower is then credited with a deposit account which he can use as needed.

Its *second* principal function is to give loans. This the bank does by discounting the bills of exchange, advancing loans against goods or other securities, by way of overdraft, etc. Every banker knows that though the deposit may be demanded back at any time, only a small part of the total will be withdrawn at any time. Experience teaches him what margin should be kept to meet these demands. The rest he

(b) It gives loans and advances.

can obviously employ in giving loans and advances to merchants and manufacturers. These loans may be made against security; the security may be gold, or stocks and shares, or goods either in course of manufacture or in course of movement from one place to another. Or they may be given without any tangible security, on the promissory note of a customer in whose solvency the banker has faith.

A *third* function is to provide an inexpensive medium of exchange—a note or a cheque. The notes grew out of the receipts of the

(c) It issues notes and creates other media of exchange.

bankers for money deposited with them. These notes passed from hand to hand, and were generally preferred because they were easily carried and were more convenient and safe. In recent times, the issue of notes has become the privilege of a single bank,—the Central Bank. In the more advanced countries, they have been replaced by cheques. The issue and the encashment of cheques are similar to those of notes.

In addition to these, the bank performs a variety of other functions. These functions are of three types :—financing of foreign trade, agency services and general utility services. Banks finance the foreign trade of the country by accepting or collecting bills of exchange drawn by the customers, and by transacting other foreign exchange business. *Secondly*, they act as the agent of their customers in collecting and paying cheques, bills, dividends, subscriptions, and insurance premia, etc.

(d) Various other functions.

They also sell and purchase shares and securities for their customers through the stock brokers. *Lastly*, they perform miscellaneous services for the benefit of their customers. They act as custodians of the valuables of the customers, and take care of the marketable securities, bonds, deeds of property, etc., of valuable boxes and parcels; collect interest and dividends; act as a trustee, or an executor of wills, or an administrator of family trusts; are used as a business address by its customers; and issue various forms of credit instruments, e.g., letters of credit, traveller's cheques, etc., which being easily negotiable, are of considerable help to the customers.

Balance-sheet of a Bank: Another way of analysing the functions of a bank is to study its balance-sheet. Therein the liabili-

ties and the assets of a bank are set out. A typical balance-sheet is like this.

<i>Liabilities.</i>		<i>Assets.</i>	
Paid-up Capital	Cash and balances with the Central Bank.	
		Balances with and cheques in course of collection on other banks.	
Reserve Fund	Money at call and short notice.	
		Bills discounted.	
		Investments.	
		Advances to customers.	
Current Deposit and other Accounts	Liabilities of customers for acceptances.	
Acceptances, etc., for account of customers	etc.	
		Premises.	

On the liabilities' side paid-up capital denotes the capital of the bank, and the reserve fund is the accumulated resources intended for contingencies. These two represent the bank's liability to the shareholders. Deposits are of two kinds, current or demand deposits, and fixed or time deposits. Current account deposits are those deposits which are withdrawable on demand by cheques; they are called 'demand' deposits in America. Fixed deposits are those deposits that can be withdrawn only after giving notice to the bank for a week or a month or more. In America, such deposits are called 'time' deposits. The usual practice is not to give any interest on current accounts, while the fixed deposits earn some interest. In India, interest is generally allowed on current accounts also, but the customers are required to maintain a minimum balance with the bank. The last item is of the nature of what is called 'contingent liabilities', *i.e.* they have to be met only in certain conditions. The bank may have 'accepted' a bill on behalf of its customer; it then becomes liable for payment of the sum mentioned in the bill, in case the customer fails to pay. Hence this item is balanced on the assets' side by customers' liabilities for acceptances.

The side of assets represents more faithfully the varied nature of a bank's functions. The first item represents the cash reserves of the bank to meet the demands of the customers, and hence its first line of defence. This cash reserve is generally a certain proportion of the total liabilities of the bank to its depositors and every bank knows from its experience what proportion it should aim at keeping in reserve. The general rule followed by the British banks is to keep a reserve of 10 to 11 per cent. of their deposits. In India, the scheduled banks were keeping about 14 to 16 per cent of their deposits in this form during the war years. The second item 'balances with and cheques in course of collection, etc.' explains itself.

"Money at call and short notice" means loans granted for very short periods. It consists of loans to the bill brokers payable at call or seven days' notice, and loans to the stock exchange. These loans

are generally backed by adequate collateral, *i.e.*, first class bills for securities. They represent the bank's 'second line of defence'. The essence of these loans

Call loans.

is that they can be recalled at very short notice; such a 'reservoir of short money' is essential for every bank; for at any moment, any exceptional demand may be made on its reserves. Whenever the bank meets with such an exceptional depletion of its reserves, it will at once recall some of these loans, or refuse to renew them. But as a rule, in normal times, these are renewed. The British banks usually invest about 7 per cent. of their deposits in this way.

Bills of exchange, generally of three month's duration, are very good short-term investments. The fact that they will mature within a short period makes it unlikely that their

Bills discounted.

value would fall very much; and where there is a good bill market, they can be discounted at very low rates. A bank will always arrange its bills in such a way that a considerable portion of them will mature at a time when large withdrawals of cash may be expected. In recent times, the importance of commercial bills is declining on account of the comparative lack of such bills. The Treasury Bills (*i.e.*, 3 months' bills issued by the Government) are assuming greater importance in the money markets. It should be noted that the amount invested by banks in bills tends to vary inversely with their cash position. When investment in bills declines, banks try to keep larger cash reserves, and *vice versa*. On the whole, it has been found that banks generally aim at keeping about 30 per cent. of their assets in the form of cash reserves, call loans and bills.

"Investments" are mostly in government securities and municipal bonds, or in industrial shares, etc. They yield a fixed income and bring a steady profit to the bank. They act also as a counterpoise to its customer's demand for money. When the demand for loans increases, the bank sells its securities and increases its advances to customers; and the

Investments.

converse happens when the demand for loans decreases. But they are considered by orthodox theory to be less liquid than the bills. For though in normal times, such securities are easily saleable, yet in moments of crisis, the buyers may be few and their prices may fall so low that selling would be unprofitable. They may thus become 'frozen'.

"Advances to Customers" represent the bank's loans to its customers against good security or even without security. They are usually granted for short periods, not exceeding six months for varied purposes, *viz.*, to help the temporary needs of any legitimate business, or as a temporary loan to companies for the purposes of obtaining fixed capital before new issues are floated and subscribed in the market, etc. These are the most profitable of bank assets as the banks charge inter-

est at the rate of one per cent. above the Bank Rate with a minimum of five per cent.

The next item represents the liabilities of its customers on account of the bills, accepted on their behalf by the bank, etc. It is also represented on the side of liabilities by a similar amount.

The next item, 'bank premises' explains itself.

Principles of Commercial Banking :—The fundamental principles of banking are the same as those stated by Gilbert in his *"History and Principles of Banking."* *First*, it is not the function of a bank to supply its customers with capital to carry on their trade. *Second*, the bank should not advance money in the form of permanent loans, on dead securities, like collieries, mills, etc. *Third*, it is a bad policy for a bank to make a very large permanent advance to any one customer. Most of the deposits of a bank are withdrawable either on demand, or at short notice. So its loans must also be for short periods. Its investments must therefore be 'liquid.' It should therefore aim at meeting temporary rather than permanent needs of its customers, at financing the purchase of raw materials and the sale of manufactured goods rather than the purchase of machineries, plants, etc. In other words, it should aim at supplying circulating rather than fixed capital. "The prudent banker, when asked to grant a loan, will always enquire in the first place for what period the advance is required, and what is the prospect of its re-payment by the expiration of the period. If he is not satisfied as to this, he must not let himself be tempted either by the value of the security or the rate of interest offered; his chief thought must be for the liquidity of his advances." Moreover, the banks should not involve themselves too deeply in any one industry, or in the fate of any one individual. If somehow that industry or the man falls on evil days, the bank's assets may become 'frozen' and unrealisable. Therefore the loans and investments of banks should be fairly distributed among different industries and also among industries in different places. In other words, they should not put all their eggs in one basket. *A good banker is therefore he who knows the distinction between a bill and a mortgage.* A bill of exchange, generally drawn for three months or less against goods, is self-liquidating in the sense that at the end of the period, the drawer of the bill, by selling the goods, would automatically be put in funds for repayment of the loan. Whereas a mortgage is not self-liquidating in that sense. There is no knowing whether the owner of the land or the building will have adequate funds for the repayment of the loans.

Reserves: "Successful banking," it has been said, "depends largely on the management of the reserve." The reserve consists of the cash and the deposit with the central bank which the banks keep to meet the demand for withdrawals. The reserve must be sufficient without being excessive. If it is insufficient, the bank is courting insolvency; if it is excessive, that means idle money and loss to the bank.

The bank manager therefore must strike a nice balance between liquidity and cupidity and in this lies the ability of management.

There is no rigid fixity about the actual amount of the reserve that is required. It will be governed by the class of business conducted by the clients. If the depositors are active businessmen,—mostly industrialists, they would withdraw more cash on or before the pay day. If they are agriculturists the withdrawals will be smaller and fewer, and the reserves need also be smaller. It will also depend on the season of the year. If the crop-moving season is near, there will be a drain of cash to the interior in payment of the crops; the reserves would have to be kept larger. Moreover, there is always the chance that some irregular or unpredictable demands will be made on account of (say) international complications. It is no wonder that the problem of keeping the exact amount of the reserve will tax the ability of a manager.

But in the last resort, the problem of reserves resolves itself into the problem of the liquidity of the assets. Its loans must be, as far as possible, immediately realisable. In normal times "call loans" can be immediately turned into cash, and hence are counted 'the second line of defence.' Bills and government securities are generally considered as good as cash; for, except in abnormal times, bills can be discounted at reasonable rates and government securities sold in the market. In abnormal times, when the market is completely disorganised, they are of course unsaleable. But then good bills could be rediscounted at the central bank and loans could be obtained from the latter on the securities. The right position for a bank manager is that he should arrange his bill portfolio in such a way that a few bills are constantly maturing and that a good many should mature before the day on which large withdrawals are likely to be made.

Do banks create credit? * Deposits of a modern bank, it has already been stated, are created in two ways. In the first place, ¹²⁴ the members of the public bring cash to the bank, and are credited with ²⁷¹ a deposit account in its books. Deposits in the Postal Savings Banks are created in this way. In the second place, the bank agrees to discount the papers of a customer, or to advance loans to him. Instead of at once paying away the whole loan, the bank will open a deposit account in the name of the customer, who will then be allowed to withdraw it as required. Every loan by the bank therefore creates a deposit.

Hence it has been argued by Hartley Withers that "loans make deposit"; that the initiative in the creation of credit lies with the banks. Of course the borrowers who now possess a deposit account may with-

* For an able discussion of this topic, see Hayek—*Monetary Theory and the Trade Cycle*. Pp. 150-167.

draw their deposit in cash to meet their liabilities to others. But these 'others' may also be the customers of this bank and they will deposit the sum with it, or they may be customers of other banks, and will deposit their money with them. In any case, so long as a loan is due, a deposit to that amount will be outstanding in the books of some bank or banks.

To this theory about banks' creating credit, vigorous objections have been made by the late Dr. Walter Leaf* and Cannan. In their opinion, the initiative in the creation of credit does not lie with the bankers, but with the depositors. What happens is that the depositors do not withdraw the greater proportion of their deposits, and so the bank is able to advance loans. The mistake of these theorists lay in looking the wrong way. It is not loans which make deposits. Rather it is the unwithdrawn deposits that are lent. Hence there is no essential distinction between a bank and a cloak-room. Suppose there are a hundred guests in an evening party, each arriving with a cloak, which he deposits with a cloak-room attendant. It is known that the party will not break up before (say) 10 P.M. In case some guests depart earlier, the attendant keeps ten cloaks in stock and lends out the rest to be returned by 9-30 P.M. Has the attendant, in hiring the cloaks, created 90 cloaks? That is clearly absurd and so also is the myth about banks creating credit. Leaf has further shown, by analysing the balance-sheets of the "big five," that during the first months of 1926, though the advances of the banks had increased greatly their deposits actually decreased. How to explain this situation if we adhere to the saying, 'loans make deposits'?

The implications of this controversy are important from the point of view of price-stabilisation. If the banking system exercises no control over the volume of credit; if depositors 'create' credit, then it may be difficult for the banking system to control the volume of credit and hence prices. A clear analysis is therefore necessary.

Let us, first of all, assume an isolated community which conducts no foreign trade. Let us further suppose that there is only one bank in the country, and that every body keeps an account with that bank: further, no cash circulates and all transactions are settled by cheques. Under these hypotheses, the volume of deposits of the bank will be determined by its volume of loans. It will clearly create credit. Now we must remove the assumptions one by one, to bring the statements in touch with realities. *First*, some cash is always used, and the bank is under an obligation to convert its cheques into cash. The bank must therefore keep a certain amount of cash reserves to meet the demands of its customers. *Secondly*, there is not one bank, but many banks.

* Leaf, *Banking*. Pp. 101-104. Also P. 126.
Cannan, "The difference between a Bank and Cloak Room" in *An Economist's Protest*.

The cheques on one bank may be presented through other banks for collection. On the other hand, the bank will also possess cheques on other banks. Every bank will therefore always have some cheques in its favour or against it, and it is unlikely that the two will exactly balance.* The bank must therefore keep certain reserves to honour the cheques presented by other banks. Now the total amount of reserves generally bears a ratio to the total deposits, and a bank knows by experience the approximate reserves that it must keep against its liabilities. When its actual reserves are greater than this amount, it will extend more loans; when the reserves are lower, it will contract loans. The loan-policy of the banking system depends on the aggregate reserves.

There are thus two limitations on the power of banks to create credit. Any particular bank cannot lend more than is warranted by the amount of its resources. If it does that its reserves will dwindle

Limits to the power of a bank in creating credit. owing to the fact that it will have to pay away more cheques than it receives from other banks. Secondly, the creation of credit will be accelerated or retarded in accordance with the total reserves of banks as a whole.

The aggregate reserves of the banks will depend on the policy of the central bank. If the central bank purchases securities from the market, the reserves of the banks are increased.† When it sells securities, the reserves are diminished. Thus the policy of the central bank determines the total cash reserves of the banking system, and the total reserves of the latter will determine their rates of lending. Cannan's difficulty lay in the fact that he focussed his attention on deposits. The banks do not lend their deposits, they lend their credit. And in this process of lending the initiative lies with them.

There is however one important limitation. Lending connotes two parties—the lender and the borrower. There may arise conditions of falling prices and loss of confidence in which it may be difficult to find good borrowers. The bank may therefore find it impossible to prevent its volume of loans from falling. The power of creating credit is therefore incomplete.

Clearing Houses : "A clearing house is a general organisation of the banks of a given place, having for its main purpose the off-setting of cross-obligations in the form of the cheques." When there are many banks in a country, each bank will receive a number of cheques drawn on the other banks, deposited with it for collection. The clearing house is an organisation where these cheques are brought, and the mutual claims of each bank on the others are offset, and a settlement is made by the payment of the difference. Suppose there are two banks, A and B. In course of the day, A will have some

* See next section of this chapter.

† See next chapter for 'Open Market Policy'.

cheques sent to it for collection, drawn on B. Similarly, B will also have some cheques drawn on A. At the end of the day, or often, the representatives of A and B meet at the clearing house, and offset the claims as far as possible. Suppose A has due to it Rs. 10,000 from B and B has A's Rs. 12,000 due to it. A will then pay the balance, i.e., Rs. 2,000 to B, and the account is settled. In practice, all the banks keep an account with a large bank, generally the central bank, and A pays B by giving a cheque for the amount drawn on the central bank. Thus a great economy in the use of cash is secured, and all clearing transactions are settled by transferring balances kept at the central bank from the account of one bank to that of another. In this way, huge amounts are settled in one day.

CHAPTER 37

CENTRAL BANKING

Since the first world war, the most important development in the field of monetary theory is the emergence of central banks with added prestige and power. The establishment or the re-organisation of central banks became one of the essential features of every scheme of financial reconstruction undertaken between the inter-war years. There is now hardly a civilised country which does not possess a central bank.

Constitution of Central Banks : The constitution of central banks varies so much in important matters that it is difficult to speak of a single type as a standard. There are central banks which are owned and managed by the state. On the other hand, there are banks which are owned by private shareholders as in India, or by commercial banks as in the U.S.A. Most of the central banks started since the first war have been shareholder's banks, as it was then the fashion to stress the independence of the central bank from Government control. But in recent times, the strain of the trade-depression, the necessity of rearmament expenditure, and the spread of socialistic ideas,—all have combined to increase the influence of the Government over the management of Central Banks. There is no Central Bank which is entirely free from the control of the Government. This will be evident if we study the composition of the Board of Directors and of the Governors of the more important Banks. The Governor of the Board of Directors and his Deputy, in whose hands effective power is concentrated, are often appointed by the Government. Or, their appointment is made subject to the approval of the Government. In the U. S. A., all the seven members of the Board of Governors are appointed by the President. In France, the Governor and his Deputies are in effect appointed by the Government. In England, the Governor, the Deputy Governor and all Directors are appointed by the Government.

The appointment to the Board of Directors is also made in various ways. In America and England, all the Directors of the supreme Board are appointed by the Government. The member banks of the U.S.A. have only the right to elect some Directors of the twelve Reserve Banks. In some cases, as in India, the majority of the Directors are appointed by the shareholders. Sometimes rules have been laid down that all or some of the Directors should be chosen from the representatives of commercial or agricultural or other interests. In addition, it is the usual practice to lay down that the Secretary to the Treasury or a high Government official of the Finance Department shall be an *ex officio* Director keeping watch over the affairs of the Bank in the interest of the Government.

The Government also retains control over other matters. For example, the distribution of profits is regulated by the Government, the state often taking away a share of the profits of the Bank, after paying a fixed or a reasonable dividend to the shareholders.

Functions of Central Banks: The main function of a central bank is to act as the governor of the machinery of credit with a view to secure the stability of prices. It regulates the volume of credit and currency, pumping in more money when the market is dry of cash, and pumping out when there is excess of credit. Its aim is to secure not only the stability of prices, but also the stability of exchanges, so far as these two aims are compatible with each other. It aims at controlling both the short-period or cyclical fluctuations and the long-period movements of the price-level.

In order to perform this function with efficiency, the central bank must be equipped with other functions. These are best stated in the words of the Governor of the Bank of England. "It should have the sole right of note issue. It should be the channel and the sole channel, for the output and intake of legal tender currency. It should be the holder of all Government balances; the holder of all the reserves of the other banks and branches of banks in the country. It should be the agent, so to speak, through which the financial operations at home and abroad of the Government would be performed. It would further be the duty of a central bank to effect, so far as it could, suitable contraction and suitable expansion, in addition to aiming generally at stability and to maintain that stability within as well as without. When necessary it would be the ultimate source from which emergency credit might be obtained in the form of rediscounting of approved bills, or advances on approved short securities or Government paper."

(a) To secure stability of price.

In the first place, therefore, the central bank should possess the monopoly of note issue in order to secure control over currency. We have seen that the aggregate loans of the banks bear some fixed relation to their cash reserves. Cash reserves consist entirely of notes and subsidiary coins, of which the latter are a minor element.

Hence to secure control over the volume of credit, it must possess the right of note issue. In addition, the subsidiary coins are issued through the agency of the central bank.

Secondly, the central bank generally acts as the banker's bank. All other banks of the country keep, either by law or by custom, a certain amount of their balances with the central bank. In the U. S. A., the member banks are required by law to keep a certain percentage,—varying from 13 to 3 per cent.—of their total liabilities

(c) To act as a banker's bank.

*Evidence before the Royal Commission on Indian Currency and Finance, 1926.

on deposit with the Reserve Banks. In England, the joint-stock banks keep their balances with the Bank of England as a matter of custom and convenience. Under the Reserve Bank Act of 1934, the scheduled banks in India are required to keep a proportion (from 5 to 2 per cent.) of their deposit liabilities with the Reserve Bank. It is the ultimate holder of the reserves of the banking system, and any bank can draw upon this pool to tide over temporary needs and difficulties by rediscounting first class bills.

Thirdly, the central bank is also the banker of the Government. Through taxation and expenditure, the Government receives and disburses an enormous sum of money, which, if

(d) *Government banker.* unco-ordinated, might cause unnecessary disturbance to the money market. Hence the financial operations of the Government should be carried through the central banks, which regulate the receipt and the payments in such a way as not to disturb the money market. It therefore manages the Government accounts and the public debts; and has the custody of the funds of the Government free of interest.

Fourthly, when the country is on the gold standard, the management of that standard with a view to securing the stability of exchanges is left to the central bank. For this purpose, the central bank is generally placed under a statutory obligation to buy and sell gold

(c) *Management of the gold standard.* at fixed prices. In some countries, it is also empowered to sell gold or at its option, foreign exchange on a gold standard country.

Another important function of the central bank in this connection is to assimilate the gold movements. When gold is imported, it either initiates an expansion of credit, or sterilises the gold imports by selling securities in the market. And *vice versa* when gold is exported.

Fifthly, the central bank is the ultimate lender of last resort. By rediscounting first class bills, or by taking advances on approved short-term securities from the central bank, the other banks can increase their cash resources at the shortest possible notice. This makes their position more liquid. Whenever a crisis or a panic develops into a run on the banks, this facility of turning their good assets into cash at a moment's notice is of great advantage to them. It is therefore the ultimate source from which emergency credit is obtained by the market to meet the temporary needs for additional credit or the demands for cash on the part of a panic-stricken people.

Lastly, the central bank also performs certain other minor functions. For example, it acts as the clearing house for the settlement of drafts and cheques of the commercial banks.

Methods of Credit Control: The central bank controls the volume of credit in three ways,—by raising or lowering the Bank Rate, by engaging in open market operations, and by varying the reserve ratios of the member banks. We shall describe the *modus operandi* of each policy one by one.

Influence of Bank Rate:* Bank Rate is the minimum rate at which the central bank will discount first class bills of exchange, or will advance loans on approved securities. In some countries, it is known as the discount rate.

Suppose for any reason, a country's balance of trade has become adverse. Such an adverse balance would cause an export of gold from that country. Since the reserves of the central bank are thus depleted, it will put up the Bank rate. What will be the consequences of a higher bank rate?

Effect on the foreign exchanges. The immediate effect will be on the foreign exchanges. Since the Bank rate is high, it means that the people, especially foreigners, can obtain a higher rate of interest in that country than elsewhere. So they will not withdraw any money that they are entitled to withdraw from that country, or the proceeds of any bill they have discounted. Foreigners who have money to invest for short-periods will send it to that country. On the whole, there will be a movement of funds into, or a stoppage of funds going out of that country. The demand of the foreigners for the currency of that country will increase, and hence its value rises in terms of foreign currencies. That is, the exchange rates will become favourable, and gold may even be imported into the country. Further, as a result of the higher Bank Rate, there will be less borrowing, and the purchasing power within the country will decrease. Some portion of this decreased purchasing power that would have been spent on the purchase of imported goods would no longer be so spent, and so the volume of imports will decline. The balance of trade will therefore tend to become favourable.

Effect on Prices and Costs. Because of the higher cost of borrowing, businessmen who are on the margin of doubt whether it is profitable to invest money in business at the old rate of interest will be deterred from borrowing when the rate is higher. Moreover, people who borrow money repayable over a long period for constructing factories, docks, buildings, etc., will curtail their activities because of the high rate of interest. The production of investment goods will therefore be slowed down, and unemployment will ensue in the constructional industries. As the spending power of the unemployed is decreased, the prices will tend to fall. Meanwhile, traders and dealers, who are in the habit of keeping stocks of goods with borrowed money, will try to reduce their stocks now that the cost of borrowing is higher and there is an expectation of falling prices. They will also curtail their orders for goods to the producers. The latter, faced with reduced orders, will not at first shut down their factories; for once closed down, it might be difficult to start again when business would revive. They will first of all quote lower prices to the dealers. The wholesale price-level will therefore fall. But the costs of the producers.

* See appendix to this chapter.

including wages have not fallen and they will be undergoing losses. As they can not go on in this way for a long time, they will be forced to curtail their productive activities, and a state of general unemployment will ensue. Finally, as a result of the pressure of the growing unemployment, the rates of earnings will fall. The costs will, therefore, fall until it becomes profitable again to sell at the lower prices. Thus the effect of a higher Bank Rate is first to attract the volume of short-term funds into the country, to make the rates of exchange and the balance of trade favourable; if it continues for a longer time, the production of investment goods will decrease, the wholesale prices will fall, unemployment will ensue and finally the costs and the money incomes will be lowered. The opposite happens when the bank rate is lowered.

Open Market Operations: The term 'open market policy' is used to signify those transactions in which the central bank sells or

Modus operadi of the open market policy. purchases securities on its own initiative to control the volume of credit in the country.

If, at any time, the reserves of the joint-stock banks are ample and they are pursuing a policy of easy money which the central bank deems unwise, it will sell government securities in the market. The buyers of these securities pay the central bank by giving cheques on other banks. These cheques, when cashed, will diminish the reserves of these banks, and they will then be forced to curtail their lending. Their money rates of lending will move up and the volume of credit in the country will be decreased. Similarly, when the central bank finds that the money rates are unusually high and there is a dearth of funds in the market, it will purchase securities, and pay the sellers by giving away its notes. These will be deposited by the sellers with their banks. The reserves of the latter will therefore increase, and they will lower their rates of lending. In this way, by selling or purchasing securities in the market, the central bank can change the reserves of other banks, and their money rates of lending and the volume of credit.

The influence of the open market operations on the money market is not the same in all countries. In England, the open market operations

Open market policy in England. have been most successfully carried out. It is a convention of the English money market that the other joint-stock banks should not

borrow directly from the Bank of England either by rediscounting the bills, or by taking advances against securities. So when the Bank sells securities in the market, the reserves of the banks are diminished, and they do not replenish their cash reserves by borrowing from the Bank of England. They cease to give loans, or call in their loans to the bill-brokers, their second line of defence. In the federal reserve system, it is the usual practice for the member banks to borrow from the Reserve Banks by re-discounting their bills. So when the Federal Reserve Board sells securities in the market and carries off a part of the reserves of the member banks, the latter may take some bills to

the Reserve Banks and by re-discounting them replenish their reserves. There would then be no contraction of credit and the open market policy might become ineffective. In recent times, however, a convention has been established against large and continuous borrowing from

the Reserve Bank. Moreover, a limit has been fixed up to which each member bank will be allowed to borrow from the Reserve Bank.

Open market policy in the U.S.A. When the Federal Reserve Board sells securities in the market, the member banks will not at once re-discount them if they have already borrowed up to the limit assigned to them. They will call in loans, and restrict their purchases of bills, and as a result the money rates go up. Similarly, when securities are purchased, and the sale-proceeds are deposited with the member banks, and by them to the Reserve Banks to pay off their debts, this process will reduce their indebtedness to the Reserve Banks and lead them to adopt a somewhat more liberal credit policy. Money rates then become lower. The efficacy of the open market policy has thus increased in recent times under the Federal Reserve system, though it is not as perfect as in England. On the continent, this policy has not been much used. The Bank of France has been recently allowed to engage in open market operations, while the Reichsbank's power to deal in government securities was enlarged just before the last war.

Thus the open market operations are an effective instrument in the hands of a central bank for exercising a stabilising influence in the money market. When there is a great demand for funds, for example, before the Christmas and the market rates of lending are high, the central bank can come to the rescue of the money market and pour funds into it by purchasing securities. Moreover, by purchasing or selling securities, the central bank can "sterilise" or "offset" the movements of gold. When gold is imported into the country, the reserves of the banks are increased thereby, and they may embark on a policy of credit expansion. The central bank, if it does not like an expansion of credit, will sell securities in the market and thus wipe off the surplus reserves of the banks and prevent them from expanding their loans. This is called 'sterilising' gold imports. Conversely, when gold has been exported and as a result, the reserves of the banks are lower, they may pursue a policy of credit restriction. The central bank, if it desires to prevent contraction, will purchase securities in the market, the reserves of the member banks are increased and they will cease to contract their loans. This is called "offsetting" of gold. Lastly, in emergencies and in crisis, when the demand for funds on the part of the panic-stricken people vastly increases, and there is a run on the banks, the central bank can come to their rescue not only by re-discounting their bills, but by liberally purchasing securities and supplying the market with additional funds. This was one of the main ways in which the Federal Reserve System tried to meet the banking crisis of 1931-32.

Relation between Bank Rate and Open Market policy: It is obvious that the use of the Bank Rate and of the open market operations cannot be separated from each other. Each, by itself, may not be as effective as is desirable. For example, a high bank rate may

Bank Rate policy and Open Market policy. not always result in a contraction of credit. The other joint-stock banks may be in possession of surplus funds which they would go on lending at low rates, even if the bank rate is put up. The bank rate thus becomes ineffective. Under such circumstances, the central bank will sell some securities in the market and absorb the surplus funds of the banks. The latter will then be forced to follow the lead of the central bank and curtail their loans. Similarly, the open market policy, if it is not followed up by appropriate changes in the Bank rate, may not always be effective. Suppose in order to control credit, the central bank sells securities, but has not raised its rate of discount. The member banks may then replenish their reserves by rediscounting these securities with the central bank, since the discount rate is low. The policy of credit restriction will be unsuccessful. But if the discount rate is also simultaneously put up, the other banks will find it unprofitable to rediscount securities. They would call in their loans. Hence each of the two weapons may not always be successful if it is not backed up by the other.

Open market operations are now-a-days used to prepare the market for changes in the Bank rate as well as to make the Bank rate more effective. Before the Bank rate is raised finally, securities are sold in the market to prepare the ground beforehand so that the market may be forced to follow the lead of the central bank. Similarly, when the Bank rate becomes ineffective, the open market operations are resorted to, to make it effective. Now-a-days it is being increasingly felt that to correct any temporary maladjustment in the money market, the use of the Bank rate policy is unwise. The influence of changes in the Bank rate is far-reaching, and it should therefore be used only to cure any permanent disequilibrium in the economic life of the country. Consequently, the policy of purchase or sale of securities is finding increasing favour with the central banking authorities as a method of control.

Variation of Bank Reserve Ratios: Writing in the *Treatise on Money*, Lord Keynes suggested arming the central banks with another weapon of control, viz., changing the reserve-ratios of the member banks. The central banks might not find it always possible to engage in open market operations. There may be a shortage of securities which the central banks might buy or sell. Moreover, it will not always be profitable for central banks to purchase securities at higher prices, and to sell securities at lower prices. So it may sometimes be convenient if the central bank is empowered to ask the member banks to keep a higher or lower percentage of reserves against their deposits. In India, for example, the scheduled banks are required by law to

keep 5 per cent of their deposits with the Reserve Bank. If the Reserve Bank finds at any time that the member banks are in possession of surplus funds on the basis of which they are going to expand their loans,—a course which the Reserve Bank considers undesirable, it should be authorised to call upon the member banks to keep (say) 7 per cent reserves against their deposits. A large part of their surplus funds will then be immobilised and they may be unable to create more deposits. Under the Banking Act of 1935, the Board of Governors of the Federal Reserve System of the U. S. A. has been authorised to increase the reserve ratios of the member banks upto certain limits. On two occasions, one in August, 1936 and in March, 1937, the Board increased the reserve ratios of the member banks in order to control large-scale expansions of credit. In 1936, the Reserve Bank of New Zealand was also authorised to alter the reserve ratios of trading banks. Such provisions are also to be found in the case of the Bank of Mexico, Belgium etc.

Rationing of Credit: By means of the above three policies, the central bank can control the total volume of credit outstanding in the market. But it cannot control the uses to which credit may be put. By rationing credit it may discourage the granting of loans to stock exchanges by refusing to rediscount the papers of the bank which has extended liberal loans to the speculators. Under the Securities Exchange Act of 1934, the Board of Governors of the Federal Reserve system has been given the power to prescribe margin requirements for the purpose of preventing an excessive use of credit for stock exchange speculation. This policy, however, is not very much used by the central banks.

In addition, the central banks often exert much indirect influence over the loan policy of the member banks by what is called "moral persuasion". There is generally much close co-operation between the central bank and the member banks, and the former may persuade the latter to follow its lead.

Moral persuasion.

Limits of Control: So long we have discussed the methods by which the central bank can control the money market. Each of

How far the bank rate
is effective?

these methods is subject to serious limitations. Changes in the bank rate will not always act in the way desired. The central bank can control the bank rate. If changes in the bank rate are not followed by similar changes in the other rates prevailing in the market, these will not be followed by changes in the volumes of bank loans. There is often no proper co-ordination between the different money rates prevailing in the money market. According to the convention of the London money market, it is the usual practice of English banks to charge rates which are usually 2 per cent above Bank rate with a minimum of 5 per cent. So when the Bank rate is raised, the rates charged by the banks will also rise. But a lowering of the Bank

rate below 3 per cent, will not lead to any further fall in other rates. The central bank can thus force an increase in money rates, but its power to force a fall in such rates is severely limited. This means that the central bank may be able to check an inflationary movement, but it will not be able to control deflation by causing a fall in money rates, provided of course that the volume of bank loans is responsive to changes in the rates of interest. This, however, does not happen on many occasions. A change in the rates of interest affects the cost of borrowing to the businessmen. But the cost of borrowing forms, on many occasions, only a small part of the total costs of a businessman who is more concerned with the prospective rates of profits to be earned in his business. If he expects that prices are rising, he will not be deterred from borrowing by the fact of a rise in the cost of borrowing. A fall in the Bank rate may not induce a businessman to borrow if the prospects of profit are otherwise gloomy. This is specially true during a period of acute depression when the prospects of profit give place to the fear of losses. At such times no positive rate of interest will lure the businessmen to borrow.

The policy of open market operations has also serious limitations. We have seen that in England, purchase or sale of securities by the

Limitations of open market policy. Bank of England will cause an expansion or contraction of bank reserves. But things may not happen in the same way in the U. S. A., where, unlike in England, the banks may borrow from the Federal Reserve Banks. When a Federal Reserve Bank sells securities in the market to absorb any surplus cash reserves of the banks, the latter may easily replenish their reserves by borrowing from the Federal Reserve Banks. In case of purchase of securities by the Banks, the member banks will no doubt receive extra cash. But they may utilise the cash to repay their debts to the Federal Reserve Bank. Under the circumstances their reserves will not increase. Moreover, when the Federal Reserve Banks are trying to increase the cash resources of the banks by purchasing securities, the public may withdraw cash from the banks in panic, with a view to hoarding. In that case, the reserves of the banks may not increase. This happened in the U. S. A. in 1932 when the Federal Reserve Board's attempts to increase the cash resources of the banks were neutralised to some extent by large withdrawals of currency made by the public in fear of an epidemic of bank failures. Even if the central bank succeeds in increasing the cash reserves of the banks, that does not mean that their loans will also increase. In the first place, the banks may simply pile up more cash reserves to strengthen their position in the face of an emergency. In that case there will be no increase in loans. Secondly, even if the banks are willing to lend, businessmen may be unwilling to take loans. The banks may place plenty of water before the public horse, but the horse cannot be forced to drink if it is afraid of loss through drinking water. This may happen when confidence is lacking in the acute phase

of a depression. During such a period, an expansion of bank loans and investment will not be easy of achievement. But unfortunately the burden of depression can not be lifted unless there is such an expansion. Thus we arrive at the same conclusion as before. The central bank cannot cure a depression.

The same conclusion is reached if we analyse the implications of the policy of variation of reserve ratios. If the banks possess excess cash resources, the central bank may, by increasing the reserve ratio, neutralise the excess reserves, and force the banks from pursuing a policy of easy lending. But when the reserves are low, the central bank may remedy the situation by lowering the ratios. But this may not lead to the taking of loans if the businessmen are nervous for pessimistic.

There is of course, much truth in this contention. But it has been argued that periods of acute depression are usually reactions from previous periods of excessive booms. As the debauchery, so the headache. If the central bank can control booms in the early stages, it can prevent the emergence of a deep depression. "The fact that a motor car is not well adapted for getting itself out of a ditch once it has fallen does not prove that it is beyond the powers of good driving to keep it in the middle of the road,"* But can the central bank take steps in the sufficiently early stages? It may be admitted that if corrective measures are taken at the early stage, they may be successful. But that may not always be possible. Adequate statistics showing changes in the economic situation take time to be collected, and the measures adopted by the central bank also take time to become effective. So by the time statistics are collected, properly interpreted and the measures become effective, the disease may become deep-seated. Economic diagnosis is not always an easy task. A tendency towards a fall in prices may not mean the onset of a depression. It may simply indicate an increase in productive efficiency. So if the central bank takes steps to check such a fall in prices, it may actually promote a boom as happened in the U. S. A. between 1924-29.

Hence many economists are suggesting the adoption of other methods. Much can be gained if there is more co-operation between

Other methods of control, the central bank and other banks. If the latter follow the lead given by the former,

some of the problems of credit control will disappear. Occasions may arise when it may be necessary to exercise some sort of qualitative control over the bank loans. The central banks in some countries have been empowered to discriminate against banks which have advanced a large portion of their resources as loans for speculative purpose. Others have gone in for a bolder policy, and have suggested that since changes in the volume of investment are the prime cause of changes in the economic system, the state should assume direct control over the volume of investment.

* *Report of the Macmillan Committee*, P. 95.

APPENDIX TO CHAPTER 37

A NOTE ON THE EFFECT OF BANK RATE CHANGES

There are at least two different views regarding the way in which changes in the bank rate influence prices and production. The first view, upheld by Mr. Hawtrey, would focus attention on the behaviour of the dealers in holding stocks of finished and semi-finished goods in response to changes in the short-term rates of interest. The second line of thought has been propounded by Lord Keynes. According to him, it is the changes in the volume of fixed capital or investment goods, following a change in the long term rates of interest, which form the basic element in the whole causation.

According to Mr. Hawtrey, the central fact in the whole situation is the willingness of "dealers" to hold stocks of working and liquid and capital goods, i.e., semi-finished goods. Now the holding of these goods can be, and is usually financed by means of short-term loans. Movements in the short-term rates of interest, by causing appropriate changes in the holding of goods are sufficient to explain any change in prices and production. If the short-term rates of interest rise, the cost of borrowing and of holding stocks of goods with loans increases. Dealers therefore try to reduce their stocks; and they will send less orders to the producers for goods. Producers find that sales are falling off. The latter, in their turn, may cut prices with the intention of inducing the dealers to buy more; or they will curtail output. How far they will lower prices or curtail output will depend on the shape of their cost-curves. As the output is curtailed, some of the factors of production become unemployed. Money incomes therefore contract, either because the number of persons earning money incomes declines, or the rates of remuneration go down. This leads, again, to a decline in retail sales of goods. The dealers, finding sales falling off reduce their orders to producers, and so forth. Faced with depleted orders, producers cease to enlarge their stocks of fixed capital goods. So the market for investment goods becomes depressed. In this way, prices and production register a decline.

According to Lord Keynes, the economic situation is affected, not through the changes in the short-term rates of interest and in the stocks of working capital goods, but through the long term rates of interest and the volume of fixed capital goods. The demand for working capital is not so sensitive to changes in the short-term rates; it is the result of the general situation, which is itself determined by the demand of the entrepreneurs for fixed capital goods. So he fixes attention upon the long-term rates. Now when the bank rate changes, the long-term rates of interest will also change in the same direction for the following reasons. If the short-term rates rise, while long-

term rates remain stable, short-term securities become relatively more attractive to investors and bankers. Such persons will transfer their funds to the short-term market by selling long-term securities. This will cause the prices of the latter to fall. That means a rise in the long-term rates. Moreover, fearing a further rise in the interest rates, the investors may begin to sell long-term securities whose capital value is likely to fall very much and to buy short-term assets whose capital value can not fall so much as they will be repaid at par within a short-time. The result will be a rise in the long-term rates of interest.

Changes in the long-term rates will affect the investment market. The volume of investment in fixed capital goods depends on the prospective profits to be earned from such goods and the long term rates of interest. The rate of profits remaining the same, the higher the long-term rate of interest, the less attractive becomes any form of new investment or replacement of existing capital. As a result, entrepreneurs will spend less on fixed capital goods. Employment in the capital goods trades declines, and total money incomes shrink. Expenditure on current consumption will decrease. Employment in the consumption goods trades will then decline. Prices and production will fall all-round. The opposite process will follow a fall in the interest rates.

It should be noted that it is not possible for us to verify any of these views by a reference to facts. The efficacy of both these lines of thought depends on the behaviour or the response of entrepreneurs in different economic situations, about which we have very little knowledge. Moreover, the states of trade and prices are not so responsive to changes in interest rates, as is assumed in both the theories. Interest is only one of the factors which govern the volume of new investment, either in working or fixed capital goods. Lastly, it should be remembered that the two explanations are not mutually exclusive. A change in the bank rate may lead to a change in the holding of stocks as well as in the volume of fixed capital goods. The difference in both the views is mainly one of emphasis.

CHAPTER 38

SOME CENTRAL BANKS

Bank of England:

Established in 1694, the constitution of the Bank of England was governed by the Bank Charter Act of 1844. Before 1946, its position was unique among central banks, as it was a purely shareholders' bank, managed by a Court of Directors entirely chosen by the shareholders. When the Labour government came to power in 1945, the first important measure that it undertook was to pass an Act to "nationalise" the Bank of England. Under that Act, the Bank will be nationalised, and the shareholders will be paid Government Stock bearing interest at 3 per cent redeemable at par on or after 5th April, 1966. As the Bank was paying dividend at the rate of 12 per cent, the shareholders will be paid stocks of the value of £400 for every share of £100 held by them. The Governor and the Directors will be appointed by the government for five-year terms and four-year terms respectively. The Bank is divided into two departments—the Issue Department and the Banking Department. The function of the Issue Department is to issue notes according to the fixed fiduciary system. Originally, notes to the value of £14 m. could be issued by the Bank without any gold backing, and any notes issued in excess of this amount were to be covered by gold to the extent of 100 per cent. Further it was provided that if any bank which possessed the right of note issue at that time ceased or was debarred from issuing notes, the Bank of England might increase its fiduciary portion by two-thirds of the amounts thus withdrawn. By virtue of this provision, the fiduciary issue was raised to £19,750,000 in 1923. By the Currency Act of 1928, the fiduciary issue was raised to £260,000,000. It was further provided that the fiduciary portion can be raised with the permission of the Treasury and it was raised to £275,000,000 in 1931. At the present moment, the fiduciary issue has been fixed at £1,000,000 under the Act of 1939. Formerly, the Bank was prohibited from issuing notes below £5, but under the Act of 1928, the issue of £1 and 10s. notes was allowed. The profits on the issue of notes, after deducting the expenses, are to be paid to the Treasury.

The Banking Department conducts all the banking activities, holds the balances of the government, other banks and the public, keeps the ultimate reserve of the country, fixes the Bank Rate and is required to publish a weekly return. The business of the Bank is conducted by "The Court of Directors" composed of the Governor, Deputy Governor and 26 other members appointed by the government, subject to directions given by the government. The Governor and the Deputy Governor hold office for five years and are re-eligible for appointment.

The last Governor, Sir Mantague Norman held office for the last 17 years. It is an unwritten rule that no member of any bank, except the private or merchant banking houses is eligible for directorship. The Court meets every Thursday, fixes the Bank Rate, *i.e.*, the minimum rate at which the Bank will discount first class bills, and the weekly return. The Bank has eight provincial branches.

Bank Return: The weekly bank return, published on every Thursday, is an important guide to the state of the money market. It is said to be the "barometer" of the London money market.

Aug. 11, 1913.
ISSUE DEPARTMENT

Notes issued	Government Debt ..	£11,015,100
In circulation £979,707,446	Other government securities ..	983,307,563
In Banking Department	20,534,272	Other securities ..	622,490
		Silver coin ..	114,847
		Amount of fiduciary issue ..	1,000,000,000
		Gold coin & bullion ..	241,713
	<u>£1,000,241,718</u>		<u>£1,000,241,718</u>

BANKING DEPARTMENT

Proprietor's capital ..	£14,553,000	Government securities	£180,049,388
Rest ..	2,384,810	Other securities	
Public deposits ..	4,524,576	Discount and advances	711,007
Other deposits ..	140,259,311	Securities	15,731,798
Bankers & ..			
Other			
Accounts ..	55,665,662	Notes ..	16,442,745
	<u>195,924,973</u>	Gold and silver coin ..	20,594,272
	<u>£218,387,159</u>		<u>1,360,954</u>
			<u>£218,387,159</u>

The main function of the Issue Department is to issue notes. The item on the left side shows the total amount of notes issued by the Department. "Notes in circulation" are those notes which are either in the hands of the public, or in the vaults of the banks as the cash reserves. The notes in the Banking Department are the cash reserves of that Department and appear at the end of the balance sheet of that Department on the right side. Against these liabilities, the Bank holds the assets on the right side. The amount shown as "Government debt" is an old debt, contracted by the Government of William III when the Bank was originally started, by lending its whole capital to the government. The next item, "Other Government Securities" consists mainly of Treasury bills, and of any other government security which the Bank chooses to hold. The next item, "Other securities" consists of domestic and foreign bills. Since the war a certain amount of silver has been accumulated with the Bank. The

amount of silver is diminishing as it is being used up in minting subsidiary coins. All these make up fiduciary issue which stood at the high figure of £1,000,000,000. This increase is due to that fact that since the war, all gold coins have been withdrawn from circulation, and the Bank has met the void by issuing £1 and 10s. notes.

In the Banking Department, the first item on the side of liabilities is "Proprietor's Capital",—the subscribed share capital of a Bank, which is held by private shareholders. The "Rest" is undivided profit and it is never allowed to fall below £3,000,000. Next is "Public Deposits". It includes the balances held to the account of the various government departments. "Bankers Deposit" includes the balances of the joint-stock banks. The fluctuations in this item shows the amount of the reserves of the commercial banks. It is thus an important index to the state of the money market,—whether the banks are suffering from a paucity or surplus of funds or not. The "other Deposits" include the deposits of foreign central banks, acceptance houses and discount houses, Indian and Colonial governments, etc.

On the side of assets, the first item "Government securities" includes the Treasury bills and any "Ways and Means Advances" made to the government and the securities which the Bank buys on its own initiative. "Discounts" include the bills which the bill-brokers take to the Bank for discounting. "Advances" mean the loans made against first class securities either to the bill-brokers or to the regular customers. The interest charged on advances by the Bank is one half per cent. above Bank Rate. These two items mount up when the money market is short of cash, and the bill-brokers are "squeezed" and then go to the Bank for temporary loans. The item "securities" includes the bills which the Bank buys on its own initiative, and the loans of the Indian, colonial and other governments. "Notes" are the till-money of the Bank, and together with "gold and silver coin", they constitute what is called the reserve of the Bank. The percentage which this bears to the total Deposits,—Public and other Deposits, is called the "Proportion", and shows the strength of the Bank's position. When the proportion is high, we should expect the Bank Rate to fall; when it is low, the Bank Rate is expected to go up.

The control of the Bank of England over the money market is exercised by means of the Bank Rate and the open market operations. The Bank Rate is the minimum rate at which it will discount first class bills of exchange. It is published every Thursday after a meeting of the Court of Directors. The only break with tradition was on the 19th September, 1931, when the Bank Rate was raised on Saturday, following the suspension of the gold standard. But though the Bank Rate is the minimum rate, the Bank may discount for its favoured customers at a lower rate, or it may ask a higher rate to discourage re-discounting. In addition to the Bank rate, there is another rate, called the "Lombard Rate" for loans on stock exchange securities and other collaterals ranging from 7 days to three months, and this rate is

generally higher than the Bank Rate by one half per cent. The Bank Rate is uniformly above the market rate of discount, so that usually no rediscounting is done by the market at the Bank. It is only when the bill-brokers are "squeezed", *i.e.*, asked to pay off the call loans by the joint-stock banks, that they borrow from the Bank.

(B) Federal Reserve System: The Federal Reserve system is a unique central organisation in many respects. It is the only decentralised system, consisting of not one central bank, but of twelve banks supervised by a single organisation. It is the fruit of years of study of the banking institutions of the important countries of the world. It embodies therefore the results of the recent experiences of central banking.

To understand the origin of the Federal Reserve System, it is necessary to have an idea of the banking conditions in the U. S. A. before 1913. Banks were organised under a great variety of laws,—state and federal,—and there was no co-ordination, no teamwork among them. There was no organised agency for meeting the demands for emergency currency. Each bank was supposed to keep ample reserves; but most of them were unavailable during periods of stress. Above all, the currency system was absolutely inelastic. Notes could only be issued by the national banks after depositing government bonds with the Comptroller of Currency. So the expansion or contraction of notes did not take place in response to trade demands, but in response to variations in the prices of government debts. There were therefore frequent panics in the banking system, the most notable of which was the crisis of 1907-8. It was to remedy such a state of affairs that the Federal Reserve System was organised in 1913. The functions of the system were stated in the preamble to be "to furnish an elastic currency, to afford means of rediscounting commercial paper, to establish a more effective supervision of banking in the U. S. A., and for other purposes."

The Federal Reserve System consisted of twelve Reserve Banks and the Federal Reserve Board. The whole of the United States has been divided into twelve districts,* each district containing one Reserve Bank. Each Reserve Bank is formed by the banks in the district, who are known as "member-banks". National banks, *i.e.*, banks organised under the federal laws, must become member banks, and the state banks and trusts, etc., are permitted to join, provided they fulfil the requirements of the Federal Reserve Act. Each member bank contributed six per cent. of its paid-up capital and reserve to provide the capital of the Reserve Banks. The member banks number about 9,000. Each Bank has 9 Directors, of whom three were appointed by the Federal Reserve Board,—one of them being the Chairman of the Board—

* *viz.*, Boston, New York, Philadelphia, Cleveland, Richmond, Atlanta, Chicago, St. Louis, Minneapolis, Kansas city, Dallas and San Francisco.

New York and Chicago are central reserve cities. The ten others are reserve cities.

of Directors, and six were elected by the member banks. Of the last six, three must be actively engaged in commerce, agriculture or industry.

In addition to subscription to the stocks of the Reserve Bank, each member bank must keep 13 per cent. of its demand deposits and 3 per cent. of its time deposits (if it is situated in central reserve cities), 10 per cent. of its demand deposits and 3 per cent. of its time deposits (in reserve cities), and 7 per cent. of its demand deposits and 3 per cent. of its time deposits (if it is a country bank), on deposit with its Reserve Bank. The Federal Reserve Board is empowered to suspend these reserve requirements in cases of emergency for a certain period, provided it levies a graduated tax upon the amount by which the actual reserves fall short of the legal reserves. Each Federal Reserve Bank is required to keep a reserve of 35 per cent. in gold or lawful money against its deposits.

The Federal Reserve Banks can issue two kinds of notes,—the Federal Reserve Bank notes and Federal Reserve notes. The Federal Reserve Banks deposit government securities with the Treasury, and can then issue Federal Reserve bank notes to an amount equal to the par value of the securities. These notes were issued to replace the national bank notes.* In addition, the Reserve banks can issue Federal Reserve notes against which they are required to keep a reserve of 40 per cent. in gold. The reserve may fall below this ratio with the permission of the Federal Reserve Board, provided a graduated tax is paid on the deficit.

The Federal Reserve Board was the controlling and supervising body of the system. It consisted of 8 persons, two of whom are the Secretary of the Treasury, and the Comptroller of Currency, *ex-officio*, and the other six were appointed by the President for ten years with the consent of the Senate. The Board exercises general supervision over the whole system, can examine the accounts of every Reserve Bank and member bank, may suspend the operations of any Reserve Bank, can review and determine the rate of discount of each Reserve Bank, can regulate the open market operations of the system, and has power to suspend every reserve requirement of the Act, if deemed necessary. The Board is advised by a Federal Advisory Council, composed of twelve members, one for each Reserve Bank, in respect of discount rates, notes, issues, etc.

This was the constitution under the Federal Reserve Act of 1913. Recently the Banking Act of 1935 has introduced some changes in the organisation of the Federal Reserve system. The old Federal Reserve Board is henceforth to be known as the Board of Governors of the Federal Reserve system, the titles of Governor and Vice-Governor being changed to Chairman and Vice-Chairman, to be appointed by the President of the U. S. A. for four-year terms. The new Board

* In march, 1933, the power to issue Federal Reserve Bank notes was increased to cope with the crisis.

of Governors would consist of nine members, appointed by the President with senatorial approval, for a term of 14 years. The Secretary of the Treasury and the Comptroller of Currency would no longer be the members of the Board. The Act also provides for the appointment of an Open Market Committee, consisting of seven members of the Board of Governors, and five representatives of the Federal Reserve Banks to be selected by the latter. This Committee will henceforth manage the open market operations.

The Act provides for the appointment of a President and a Vice-President of each bank to serve as its chief executive officers for five-years terms, the appointments being subject to the approval of the Board of Governors of the Federal Reserve system. The control of the Board of Governors over the Reserve Banks has thus considerably increased.

The Federal Reserves notes can be issued with 40 per cent. backing of gold certificates. This percentage has now been reduced to 25 by an Act of the Congress passed in June, 1945. The Board of Governors is also empowered to vary the statutory reserve requirements of the member banks, provided they are not revised downwards, or are not more than doubled. The Reserve Banks are now authorised to give loans on real estates, provided the loans may not exceed 50 per cent. of the value of the real estate, and must mature within 5 years. In any case, the total amount of such loans must not exceed 100 per cent. of the capital and surplus of the Bank, or 60 per cent. of its time and savings deposits, whichever is greater. The Reserve Banks may also give loans on paper otherwise ineligible provided they shall not have a maturity of more than 4 months; and a penalty in the way of interest be added of not less than $\frac{1}{2}$ of one per cent.

All these changes have made for increased centralised control, and greater flexibility.

(C) The Bank of France: Established in 1800 by Napoleon Bonaparte, the Bank of France is one of the simplest of all the central banks. The Bank was ostensibly a private institution, its capital being subscribed by private shareholders. In 1945, as in the case of the Bank of England, the French government also passed an Act for nationalising the Bank of France along with four commercial banks. The management was entrusted to the General Council, composed of the Governor and two deputy-governors, appointed by the President of the Republic.

There was a General Council consisting of 20 members; of these, Ministries of Finance, National Economy and Colonies appoint one member each. Six members are appointed by the Minister of Finance from a list of three names submitted by each of six commercial agricultural, industrial and labour organisations. Three members are elected by the National Economic Council, the Central Committee of the savings banks and the staff of the Bank of France. Two members

are elected by the General Meeting of the shareholders and the other six are *ex-officio* members holding particular positions in state financial institutions. There are also three censors who are elected by the General Assembly of shareholders, from amongst industrial or commercial shareholders, and who have a consultative voice in the General Council and exercise supervision over all the operations of the Bank.

The Bank possesses the monopoly of note issue. Before 1928, the Bank was not required by law to keep any gold reserve against its note issue, and the maximum amount of notes that it could issue was fixed by law. But since 1928, the Bank is required to keep a gold reserve of 35 per cent. of the total of its notes and current account deposits. The Bank is also required to buy and sell gold at the rate of 65.5 milligrammes of gold* (nine-tenths fine) per franc. In addition to issuing notes, the Bank carries on a large rediscounting business. The bills to be rediscounted must carry three signatures,—one may be dispensed with if adequate security is furnished, and must mature within 90 days. The Bank, unlike the Federal Reserve system, is ready to discount for private individuals. The Bank has a large number of branches situated all over the country.

The Bank's relation with the state has always been very close. It is the banker of the state, and it has helped the state constantly by making large advances to the latter either free of interest or at nominal rates. The Bank habitually keeps large gold reserves and its discount rates are as a rule slowly changed. Its control over the money market is not as effective as that of the Bank of England or the Federal Reserve Board. Its ability to control is hampered by the unorganised nature of the Paris money market, and also by the independent action of the large private banks. Its powers to engage in open market operations have been enlarged in 1938. It cannot fully control the activities of the member banks.

Like the Bank of England, the Bank of France has been nationalised in 1945, and the private shareholders have been paid off by the state on the basis of the market value of their shares.

(D) The Reserve Bank of India: The Reserve Bank has been established in India in 1935 for the purpose of taking over the management of the currency from the Government of India. It is a shareholder's Bank, the government retaining some control over the appointment of the Directors. The capital of the Bank is five crores of rupees, divided into shares of rupees one hundred each. Separate registers of shareholders are maintained at five different centres, *viz.*, Calcutta, Bombay, Delhi, Madras and Rangoon. The management of the Bank is entrusted to a Board of Directors, consisting of a Governor and two Deputy Governors appointed by the Governor-General; four Directors nominated by the Governor-General; eight Directors elected by the shareholders from the five centres and one Government official

* This rate has been revised in recent times.

nominated by the Governor-General. For each of the five different areas, there is a Local Board consisting of five members elected by the shareholders and not more than three nominated by the Central Board.

Like the Bank of England, the Reserve Bank has been divided into two Departments, the Issue Department and the Banking Department. The Issue Department has the sole right of note issue. The notes must be backed by gold and sterling securities to the extent of at least 40 per cent., of which the amount of gold must not fall below Rs. 40 crores, and the rest to be backed by eligible securities, and trade bills. The Bank was further authorised to suspend the reserve requirements as to the gold and gold securities with the sanction of the government. The Banking Department is authorised to accept money on deposit without interest, to purchase, sell and rediscount trade bills and bills against government securities, maturing within 90 days and bills against agricultural crops maturing within nine months, to give loans repayable on demand or maturing within 90 days against eligible securities, to purchase and sell government securities of the United Kingdom and of India, to purchase and sell to scheduled banks, *i.e.*, member banks, sterling in amount of not less than one lakh of rupees; to do open market operations for the purpose of regulating credit in the interest of trade and industry. The Bank is also the agent of the Central Government and the Provincial Governments, and accept deposits from these bodies and conducts all other banking operations including management of the public debt. The Bank also buys sterling at 1s. 6-3/16d. or sells sterling at 1s. 5-49/64d. for purposes of maintaining the exchange value of the rupee. The Bank is however forbidden to advance money on the mortgage of immovable properties, or engage in trade and industry. The Bank has also a separate Agricultural Credit Department to study questions of agricultural credit.

The control of the Bank over the loose and unco-ordinated Indian money market is yet an unknown factor. The indigenous bankers, who form the bulk, are not members of the Reserve Banking system. The Bank is yet in its infancy, and a prediction as to its future is premature.

(E) The Bank for International Settlements: Though the B. I. S. (short name for the Bank for International Settlements) is not strictly a central bank, yet its potentialities are such that it deserves a page in the chapter on central banking. The Bank originated in the reparation discussions of 1929, when the Young Committee felt a need for the establishment of an international body to help in the transfer of German reparation payments. The constitution was drawn up in the Young Plan, discussed at Baden-Baden and Hague, and finally the Bank was started on May 17, 1930.

The authorised capital of the B. I. S. is 500,000,000 Swiss gold francs equivalent to 145,161,290.32 grains of gold, divided into 200,000 equal shares. The original subscribers to the stock were: the central banks of England, France, Germany, Italy, Belgium,

private banking groups of Japan and the U. S. A. It was open to other central banks to join, and by the end of 1932, 26 central banks had subscribed. The management is entrusted to a Board consisting of (a) the Governors of the original seven central banks or their nominees; (b) 7 persons representative of finance, industry or commerce, appointed one each by the 7 Governors; (c) two persons, French and German,—so long as the reparation payments continue; (d) not more than 9 persons to be elected in the following way,—the Governors of the central banks of countries (other than the seven original countries) subscribing to articles at the date of incorporation of the Bank, shall each submit a list of 4 persons, half to be representative of finance, and the rest of industry and commerce, and the Board shall elect from these lists by a two-third majority. One-third of the (d) Directors is to retire every year. In addition, the Board is empowered to appoint not more than 3 persons from similar lists submitted by the Governors of the other central banks joining subsequently. The Board must hold ten meetings a year. The Board shall elect a Chairman, known as the President, who shall hold office for three years. He is the executive head of the Bank, and is to carry out the policy and control the bank.

Article 22 enumerates the functions of the B. I. S. It can buy, sell or hold gold; earmark gold in central banks on its own account; purchase, discount bills of exchange; make and receive deposits, and act as agents of central banks. It can advance money to or borrow from central banks against gold or bills and other short-term obligations, can rediscount bills for central banks. The B. I. S. must however carry on its operations in currencies which satisfy the practical requirements of the gold standard or the gold exchange standard. Any central bank can veto any act of the B. I. S. in its own country. The B. I. S. is prohibited from issuing notes, "accepting" bills of exchange, making advances to government, opening current account in the name of the governments, acquiring any predominant interest in any business concern etc. (Art. 25). The Bank is under no obligation to maintain any reserve, the only requirement is that it shall be administered with particular regard to maintain its liquidity. (Art. 26). The Bank is also to publish annual balance-sheets and Reports. Amendments to the statutes of the Bank must be proposed by a two-third majority of Board to the General Meeting composed of the nominees of the central banks, and carried there by a majority, provided certain essential statutes can only be amended if supplemented by a law amending the Charter of the Bank.

CHAPTER 39

MONEY MARKETS IN VARIOUS COUNTRIES

In a broad sense, the term, "money market", refers to the financial institutions—the banks, discount houses, brokers, stock-exchanges, etc.,—which compete with one another for

Central bank.

borrowing and lending money. For the sake of convenience, it may be divided into five

parts. *First*, there is the central bank, the axle-wheel upon which the whole money market revolves. It acts as the guardian of the market, diminishing or expanding the supply of money and credit in the interest of domestic stability. Normally, the central bank does not actively participate in its activities. It merely supplies the appropriate stimulus, taking up the thread only when the market is unable to manage itself.

Secondly, there is the "call-loan" market,—“a market for marginal funds, for temporary unemployed or unemployable funds.” As the name implies, here the funds are employed for very short periods—mostly for a week and even for a night. The main lenders in this market are

Call loan market.

the commercial banks and other corporations. The banks, as we have stated, employ certain portions of their funds in the call-loan market and count them as their second line of defence. Whenever they want to replenish their reserves they recall those loans. The big corporations usually lend their surplus unemployable funds in this market, (for example, the dividends before distribution).. The central bank does not usually lend any fund, but in emergencies, it becomes an important source of supply. The borrowers in this market are the bill-brokers and the stock-brokers. The borrowing is done mainly by bill-brokers in England, and by stock-exchange speculators in New York. The brokers in England discount or purchase bills and hold them till maturity with funds borrowed from the joint-stock banks. The rate at which these funds are borrowed is known as the call rate, and it is generally one per cent below the bank rate. The rate is highly sensitive depending on the volume of funds lent by the banks. The latter are usually willing to renew their call loans. But there are times, *e.g.*, on the day when the half-yearly accounts are closed, Christmas season, *etc.*, when the banks would want to strengthen their reserves, and they will ask the bill-brokers to pay off the call-loans. The bill-brokers are then said to be "squeezed" for cash, and they are forced to borrow from the Bank of England temporarily because Bank rate being higher than the market rate, borrowing at that rate is usually unprofitable. The market is then said "to go into the Bank."

In New York, the call loans are taken mostly by the stock-brokers. When the American speculator buys a stock, he pays only a marginal

deposit of (say) 25 per cent. The remaining 75 per cent. is borrowed from the stock-broker, who, in his turn, borrows at call from his bank, by pledging the stocks as collateral with the Bank. This call rate is therefore highly sensitive to the wind and weather of speculative sentiment. It is the reflex of the activity of the New York speculators, and at times rises up to soaring heights. While the Bank of England can control the call rate, the Federal Reserve Board is often powerless to coerce and control the New York call rate as was shown by the Wall Street speculation of 1929.

Thirdly, there is the market for *short-period loans*. Here money is available for longer periods, generally for three months. This is the special field of activity of the commercial banks, which collect the savings of the public, and lend them through discounts and advances.

The chief borrowers are the Government, which borrows through Treasury Bills, and the industrial or mercantile clients who borrow by discounting their bills, or on promissory notes, or through advances and overdrafts.

Fourthly, there is the market for *long-period loans*. On one side there is an organisation for the supply and investment of new capital, and on the other, an organisation for the transfer of old capital. The former is undertaken by a specialised body of promoters,

issue houses, or by commercial banks, and the latter is carried on in the stock exchanges. The function of the first is to float new shares, securities, bonds, etc., for public subscription. The main borrowers in this market are the government, municipalities and other public bodies, and the industrial undertakings. The shares, securities, etc., are taken up by the members of the public who have saved. The function of the stock-exchanges is to help the efficient working of the former by providing a constant market for the transfer of securities.

Lastly, there are specialised bodies, serving a special market, or supplying a special type of credit. To this category belong the Savings Banks, Agricultural Land Mortgage Banks, Building Societies, etc.

In theory at least, the activities in these different markets should be well co-ordinated under the aegis of the central bank. Each of the rates should be in proper relation to the other, rising and falling together. For example, when the central bank is beginning to initiate a policy of easy money, either by lowering the bank rate, or by the purchase of securities, all other money rates should come down. So in the ideal money market, the movements in the bank rate will generate similar movements in other rates. Any discrepancy between the movements in the rates should be capable of being quickly corrected. Suppose the short-term rate is abnormally lower than the long-term rate. Speculators will then borrow 'short' money and invest in long period securities. Banks and other short-term lenders will then place more of their resources in long-term investments. In these various

ways, the demand for short-term funds will rise while their supply will fall due to the action of bankers. The short rate will rise. And the price of long-term securities will fall until the two rates will again reach the same relative position. In actual life, however, such a frictionless money market hardly exists. The discrepancy between short-term and long-term rates which existed between the inter-war years points out that movements in the different money rates are not always similar. In particular, the call rate is peculiarly sensitive to the speculative sentiment and may break away from other rates. The co-ordination of the different money rates is one of the most important problems of the art of central banking.

CHAPTER 40

INTERNATIONAL TRADE

All trade takes place on the basis of division of labour and specialisation. International trade is no exception to this. A person may possess abilities to perform a variety of tasks. But he specialises on those in which his ability is the greatest, leaving other activities to different individuals. Similarly, a region or a country may possess the resources to produce a large number of commodities. But it usually specialises on a narrow range of goods, leaving to others the production of different commodities, and then exchanges its own products with the output of other regions or countries, with mutual benefit to all parties. A man may be naturally gifted with the abilities of an engineer, while another has a natural bent towards the study of medicine. It is to their mutual benefit that the first individual should become an engineer, while the second should take up the profession of medicine. Similarly, different regions are differently equipped with productive resources. It will be to their mutual advantage if both specialise in the production of goods in which their comparative advantages are the greatest. In view of such fundamental similarities, is there any necessity for a separate theory of international trade?

The classical writers like Adam Smith and Ricardo believed that there were important distinctions between domestic and international trade. According to them, capital and labour were mobile within a country; but between different countries, such mobility was more or less absent. If, within a country, the rates of wages were higher in one locality or occupation than in another, more people would move to that locality, or enter that occupation where wages were higher. As a result, labourers of equal efficiency will obtain equal wages within the country. But there is no such tendency between different countries. "Man is, of all sorts of luggage, the most difficult to be transported." Owing to the differences of customs, languages, government, etc., people are generally unwilling to migrate to different countries. Similarly with capital. As a result, rates of wages and interest remained at different levels in different countries. Hence a separate theory was necessary to explain the course of international trade.

These assumptions of the classical school have been criticised on the ground that while labour and capital are not perfectly mobile within a country, they are not perfectly immobile between different countries.* For this reason, some writers have questioned the necessity of making

* See an article by J. H. Williams, "Theory of International Trade Reconsidered," in the *Economic Journal*, 1929.

any distinction between internal and international trade. Of course, it is true that labour is not perfectly mobile within a country. There are many obstacles to the free movement of labour in a country, and the formulation of the concept of "non-competing" groups of labour is a recognition of this fact.

But it is a fact that if we are offered the same rate of interest in our own country and in a foreign country, we would invariably prefer to invest at home. So long as this preference for home and the prejudice against foreigners remain, the rates of earning of the different factors of equal efficiency would not be equalised between different countries. Another reason for treating the theory of international trade, separately is that the facilities under which productive activities are carried on are not the same in different countries. "The citizens of one country are subject to the same system of national and local taxation, to the same regulations for health, sanitation, factory organisation, education and social insurance, the same policy with regard to transport and public utilities, the same laws regarding industrial combination and trade unions, the same commercial code." Thus the facilities of production differ in different countries according as these regulations are not similar. The general level of costs is thus often different, lower in one country, and higher in another. Owing to the various activities of the government, nations tend to develop barriers, natural and artificial, which impede the free working of economic forces between different countries.

Lastly, each country has got a different currency system. The exchange of goods between different countries therefore gives rise to foreign exchange operations which are absent in all international transactions. These foreign exchange operations often give rise to many complications in the course of trade. Moreover, each country is under the control of a separate Central Bank, each following a separate monetary policy which vitally affects the foreign trade of the country. Hence there is a necessity of formulating a separate theory of international trade.

Conditions for the development of international trade: All trade takes place because of differences in costs. International trade is no exception to this rule. To illustrate this, let us take up the case of two countries producing only two commodities. In country A,

10 days of labour produce	20 units of jute.
10 days of labour	" 30 units of cotton.

In country B,

10 days of labour produce	10 units of jute.
10 days of labour	" 15 units of cotton.

In this case, country A is absolutely superior to the country B in the production of both these goods. Measured in terms of days of labour, differences in costs are absolute between the two countries. Is there any possibility of trade between these countries? In country

A, the cost of producing 20 units of jute are equal to those of producing 30 units of cotton. So 2 units of jute will sell at a price which will fetch 3 units of cotton. In country B, the cost of production of 10 units of jute is equal to that of 15 units of cotton. So in that country also, the price of 2 units of jute will be equal to that of 3 units of cotton. The ratio of costs of the two products (*i.e.*, 2 units to 3 units) is the same in both countries. If the country A sends 2 units of jute to B for trading purposes, it will not gain anything as in both countries, 2 units of jute sell for 3 units of cotton. Thus in spite of absolute superiority in both directions, the first country does not gain anything by trade with the second.

Let us change the examples a little. Suppose in country A,

10 days of labour produce 20 units of jute.

10 days of labour " 30 units of cotton.

In country B,

10 days of labour produce 10 units of jute.

10 days of labour " 10 units of cotton.

In the first country, 2 units of jute will sell for 3 units of cotton as before. In the second country, however, the price of 2 units of jute will be equal to that of 2 units of cotton. It will now be profitable for merchants in country A to send cotton to the second country so long as it can get more than 2 units of jute by selling less than 3 units of cotton. The second country will also gain by the trade if it can get more than 2 units of cotton in exchange for 2 units of jute. Suppose the exchange to take place at the rate of 2 units of jute to $2\frac{1}{2}$ units of cotton. Each of the countries gains $\frac{1}{2}$ units of cotton as a result of trade. Permanent international trade can then take place when the comparative ratios of costs of the two products differ in the two countries. In the first example, the ratio of costs of jute and cotton was 2 units of jute to 3 units of cotton in both the countries. Hence no trade was possible between them. In the second example, the ratio of costs was 2 units of jute to 3 units of cotton in country A, and 2 units of jute to 2 units of cotton in the second country. As the ratios of cost differ, trade can take place between them.

✓ **Law of comparative costs:** The question naturally arises, why do the ratios of costs differ in the two countries? The main reason for such differences is that each country is differently equipped with the supply of the factors of production. Some are rich in natural resources like gold or silver mines, coal, iron, etc., while others are deficient in such minerals. Bengal has a variety of soils and climate specially suited for the production of jute and tea; while the U. S. A. is fortunate in possessing rich, fertile cotton-growing tracts. Rich countries like England or the U. S. A. possess large quantities of capital, while others like India are short in the supply of capital. The supply of factors of production is different in different countries. Hence their relative rates of remuneration will also be different in the different countries. A country which possesses an abundant supply

of good land will be able to produce agricultural crops at a very low cost, while another country which possesses large capital resources and a skilled labour force will produce manufactured goods at a low cost. Hence costs and prices of goods will be different in different countries. Trade between them is possible on the basis of these differences in comparative costs of production. Each country will confine itself to the production of those things in which its efficiency is the highest (i.e., which it can produce at lowest costs). It will export these things and import others in which its productive efficiency is the least.

To illustrate the working of this we shall start with a few assumptions. We shall first of all assume two countries, A and B, trading with each other in two commodities, wheat and cotton cloth. Secondly, both the commodities are produced in the two countries at constant cost, i.e., whatever the volume of output, cost remains the same. There are, moreover, no restrictions on the movements of goods between the different countries.

The classical economists made another assumption. All costs were measured in terms of days of labour. They stated the theory in this way.

In country, A,

10 days of labour produce	20 mds. of wheat.
10 days " "	20 pairs of cotton cloth.

In country B,

10 days of labour produce	10 mds. of wheat.
10 days " "	15 pairs of cotton cloth.

In country A, one maund of wheat will exchange for one pair of cloth. The ratio of the costs of the two is therefore 1: 1. In B, one maund of wheat will exchange for $1\frac{1}{2}$ pairs of cloth. The ratio of the costs of the two goods in B is 1: $1\frac{1}{2}$. These ratios of costs are thus different in them. A will gain so long as it can obtain more than one pair of cotton cloth by sending one maund of wheat. Similarly, B would gain so long as it gets one maund of wheat by sending less than $1\frac{1}{2}$ pairs of cotton cloth. Thus both would gain if A concentrates on the production of wheat only, and exports it to B, which produces cotton cloth only. It should be noted that while the efficiency of labour in A is greater in the production of both wheat and cloth, it has comparatively a greater advantage in wheat than in cotton cloth.

But this way of stating the theory has been criticised on the ground that it is based on the labour theory of value as it measures cost in terms of days of labour. But the fact that Criticism of classical theory. there are many different qualities of labour, and that other factors of production besides

labour are necessary in making goods shows the absurdity of measuring costs in terms of days of labour. It is an anomaly to base the theory of international trade on the labour theory while discarding it in the general theory of value. It is necessary therefore to restate the law of comparative costs in terms of the modern theory of value.

Let us suppose that the country A possesses an abundant supply of good land, but a small supply of capital, while the country B possesses large amounts of capital, but the supply of land is relatively scarce. So in the first country, the marginal cost of producing wheat is Rs. 3 per maund; while that of producing cotton cloth is Rs. 4 per pair. In the second country, the marginal costs of producing wheat and cotton cloth are Rs. 4 and 3 respectively. Tabulating these figures, we find that

In A.

Marginal cost of producing wheat is Rs. 3 per md.

" " " cotton cloth is Rs. 4 per pair.

In B.

Marginal cost of producing wheat is Rs. 4 per md.

" " " cotton cloth is Rs. 3 per pair.

The price of one maund of wheat is Rs. 3, while that of a pair of cloth is Rs. 4 in A. In other words, that combination of factors which can produce one maund of wheat can produce $\frac{3}{4}$ pair of cloth in A. One maund of wheat will therefore be equal in exchange-value to three-fourth of a pair of cotton cloth. Similarly in country B, one maund of wheat will sell $1\frac{1}{2}$ pairs of cloth. The country A will then find that if it gives up the production of cloth, and concentrates on the production of wheat, it will be able to sell wheat in B, and obtain more than three-fourth of a pair of cloth in exchange for one maund of wheat. B will find it advantageous to concentrate on the production of cotton cloth, and exchange it for the wheat of A. It will gain so long as it can get one maund of wheat by sending less than $1\frac{1}{2}$ pairs of cloth. In other words, each country will tend to export those goods made by the relatively more abundant factors, and to import other goods whose production requires the use of factors relatively scarce in that country.

The theory also takes into account the influences of demand. In the example just given, we have seen that A will gain so long it can get more than three-fourth of a pair of cloth in exchange for one maund of wheat. B will gain so long as it can obtain one maund of wheat by sending less than $1\frac{1}{2}$ pairs of cloth.

Rate of exchange is determined by reciprocal demand.

The actual rate at which wheat will exchange for cloth will depend on the relative elasticities of demand of the two countries for the goods of the other. The rate of exchange will be such that, in equilibrium, the value of a country's exports will be equal to that of its imports. Suppose the forces of demand are such that each country exchanges its products at the rate of one maund of wheat for one pair of cloth. As a result of an increase of demand, A wants to buy more cloth at this rate. But B's demand has remained the same. So in order to induce B to buy more wheat (or to send more cloth), A must offer better terms to B; A must therefore lower the price of wheat to B, or offer higher prices for cloth. In other words, A must offer to send more wheat per unit of cloth in order to induce B to buy more

wheat and to send more cloth than before. The ratio will then move against A. The actual terms of trade will therefore depend on the relative elasticities of demand of the two countries for the goods of the other.

It should be borne in mind that the doctrine does not mean that we should compare the cost of producing wheat in A and B. We cannot do that; for we do not know the actual terms of trade, and unless we know that we cannot compare cost of a commodity in both the countries. The comparison is one of ratios, the ratio of the costs of wheat and cotton in B. If the two ratios are different, trade can take place between them.

So long we have discussed the theory on the basis of two commodities. But it can be easily extended to cover the case of any number of commodities and any number of countries. A country generally possesses facilities for producing a number of goods. These can be arranged in descending order of comparative advantage in the following way. A country A can produce, by 10 days of labour, 30 units of cotton, 20 units of jute, 15 units of wheat, 10 units of tea and 8 units of rubber and so on. Which of these commodities will be exported or imported will depend on the terms of trade, *i.e.*, upon the rate at which it obtains the imports by sending its exported goods. The more favourable the terms of trade, the smaller will be the number of commodities it will have to export to obtain a given quantity of imports. The line separating the exports from other goods is therefore a moving one, depending upon the movement in the terms of trade. The introduction of several countries, instead of two, raises no difficulty. All other countries trading with India can be lumped together as one country.

This is in short the law of comparative costs. Its validity cannot be seriously questioned. A history of any tariff legislation will serve to bring out the essential truth in the theory. For example, Taussig* found striking verification of the essentials of the theory from the tariff history of the U. S. A. In the Iron and Steel Industry, though protection has been given to all kinds of manufactures, and though many of them are exported, U. S. A. still imports certain kinds of tools and machines. Similarly, in the textiles, inspite of protection, U. S. A. imports some finer piece-goods and other specialities. The reason is obvious. U. S. A. does not possess the greatest comparative advantage in their production, and hence, inspite of tariffs, these are imported.

Laws of Return and Comparative costs: In the example given above, it was assumed that both the commodities are produced at constant cost. Now it is necessary to remove this assumption. Suppose the commodities to be produced under diminishing returns.

* Taussig. *International Trade*. Chap. 16. Pp. 178-196.

In the example discussed above we assumed that A would concentrate on the production of wheat, exchanging part of its wheat for the cloth produced in B. But as A produces more wheat to be exported to B, the marginal cost of production of wheat increases. After a certain stage, A will find that further concentration on wheat production will be unprofitable. Moreover, as more and more factors are withdrawn from the production of wheat in B, the marginal cost falls. B will find that it is no longer profitable to transfer resources from the production of wheat to that of cloth to be exported to A in exchange for the latter's high-cost wheat. Hence B will retain some of its resources in the production of wheat, especially on those superior plots of land where the marginal cost of production is low. Therefore the result of the operation of the law of diminishing returns is that a commodity may be produced in both the countries. And the level of rents, and the margin will depend on the terms of trade.

When the law of increasing returns prevails, the field for profitable trade increases as demand increases. As more output is produced, the greater becomes the efficiency of production and greater will be the limits within which profitable trade is carried. No new principle is introduced; only the limits of comparative cost become wider.

Gains from international trade: In the first place, the extent of the gain will depend on the difference in the cost-ratios in the two countries. The more the comparative costs differ, the greater is the area in which profitable trade can be carried on. "A country gains by foreign trade if and when the traders find that there exists abroad a ratio of prices very different from that to which they are accustomed at home. They buy what to them seems cheap and sell what to them seems dear. The bigger the gap between what to them seem low points and high points, and the more important the article affected, the greater will the gain from trade be."* If labour is highly efficient in the production of wheat in A and also in the production of cotton in B, there is a reasonable chance that both countries' gain will be greater. The extent of the gain therefore depends on the efficiency of labour. So if the efficiency of foreign labour engaged in the production of imported goods increases, we shall gain considerably; but if efficiency increases in the production of goods we export, we shall lose.

Secondly, the extent of the gain also depends on the terms of trade, i.e., the ratio at which wheat is exchanged for cotton cloth.

If the ratio is 1 to 1, B will gain in a greater degree. For left to itself, it gets 1 md. of wheat in exchange for $1\frac{1}{3}$ pairs of cloth. But now by trade, it is getting one maund of wheat by selling one pair of cloth and is gaining one-third pair of

* Harrod. *International Economics*. P. 34.

cloth. In A, if there were no trade, one maund of wheat would have to be given in exchange for three-fourth of a pair of cloth. But now it gets one pair of cloth. A therefore gain one-fourth of a pair of cloth. But if the ratio was one maund of wheat to one and one-fourth pairs of cloth, B would have gained one twelfth of a pair of cloth, and A half a pair. Much depends therefore on the terms of trade.

The term of trade will depend on the *play of reciprocal demand*, i.e., on the elasticity of A's demand for cotton and on B's demand for

wheat. If A's demand is highly inelastic, it will be willing to pay more wheat to get a given quantity of cotton. The terms of trade will move against it. But if A's demand is highly elastic, the terms of trade will tend to move in its favour. Similarly, if B's demand is inelastic or elastic, the terms of trade will go against or in favour of it. To take an illustration, suppose the terms of trade are one maund of wheat and one pair of cloth. A change in demand sets in A, which wants more cloth at this ratio. But nothing has happened to change the demand-schedule of B for wheat at the existing rate. In order to get more cloth, A must offer more tempting terms to B. The term of trade will move against A. But how far it will move will depend on the elasticity of B's demand for wheat. If B's demand is elastic, it will be willing to accept more wheat at a slightly lower price and hence to send more cloth. The rate of exchange will move slightly against A. But if B's demand is inelastic, the concession must be greater to induce B to accept more wheat and to send more cloth. The terms of trade will move in a greater degree against A. That country will gain most from trade, whose goods are in high demand abroad, but which possesses a low demand for foreign goods. In technical language, its demand for foreign goods must be highly elastic, while the foreign country's demand for its goods is highly inelastic. The term of trade will then move in its favour.

The level of money incomes will be an indication and the source through which this gain will be shared. A country whose goods are in constant demand abroad will have a high level of money incomes. If the foreigner's demand for its exports is high, the export industries will conduct a prosperous trade and the level of wages will also be high in those industries. Owing to competition, other industries must also pay the same high rate to the labourers; otherwise the latter will shift themselves to the export industries. Thus the general level of money wages will be high in that country. But though the level of money incomes is high, the prices of foreign goods will be low, the people will gain as consumers of foreign goods. Similarly, a country whose demand for foreign products is very high will have low money incomes. The prices of foreign goods will however be high and it will lose as consumers of imports.

Wages and International Trade: What is the effect on international trade of the different levels of wages prevalent in different countries? It is a common notion with

popular writers, especially with protectionists.. Can a country with high level of wages be undersold all round? that a country with high wages will be undersold all round by a country with low wages. The notion springs from the belief that because the general level of wages is high, the costs of production and the prices within the country must also be high, and it will be unable to compete with countries where wages, costs and prices are lower.

That this attitude is highly confusing can be shown both by theoretical reasoning and actual course of trade. High wages do not always mean high costs. If the productivity of labour is also very high, *i.e.*, if labour produces more goods, the cost per unit may actually be lower. So prices may also be low. On the other hand, low wages may be due to low productivity, and so costs and prices may actually be higher. A general level of high wages can only be maintained if the productivity of labour is also very high. Hence a country with high money wages cannot be undersold all round by another with low wages.

The actual course of trade bears out the truth of this assertion. The English workers are generally paid at a higher rate than Indian labourers. Yet England has steadily exported goods to India. The United States is, by common consent, a country with a high level of wages. Yet it is exporting a considerable volume of goods to all other countries.

On the other hand, a country may have a high level of wages because its goods are much sought after by other countries. That is, the terms of trade may be favourable to it, and as a result, its level of wages may be high. Thus, instead of the high money wages being a bar to export trade, they may be an indication of a prosperous export trade, and a mechanism through which the prosperity is enjoyed by the country.

If labour is highly efficient in the dominant industries, a high general rate of wages will be established in the country. When once the high rate is established, any particular industry may find in that high rate a handicap. For though by competition it will be forced to pay the prevailing high rate, labour may not be as effective there as in the dominant industries. That country will cease to produce those things because its comparative advantages are not the greatest. If, in any industry, any grade of labour is paid a very low rate of wages, it will tend to export those goods in which that labour is used. But if all wages are lower or higher, that would not affect the course of international trade.

Non-competing groups and International Trade: In the theory of international trade, we have assumed that within a country, labour is reasonably mobile, and so the relative

Does the presence of non-competing groups modify the course of trade?

rates of wages are adjusted to relative efficiencies of the different groups of labourers. If 10 days of labour produce 30 mds. of wheat and 15 mds. of rice, labourers engaged in wheat production and in rice production would get wages in the ratio of 2 to 1. We assume that such is the fact. But suppose owing to the presence of non-competing groups, a particular group of labourers is getting either higher or lower wages than the prevailing rate for labour of the same efficiency. How will the course of international trade be affected by the presence of these non-competing groups?

If, owing to the absence of mobility, any group of labourers are in receipt of very low wages, that country will possess a comparative advantage in the production of those goods in which that group is employed. The money expenses will be lower than elsewhere. In such circumstances, those goods will tend to be exported, and the course of international trade will be affected. Such was the situation in the chemical industries of Germany before 1914. Because of the spread of scientific education, the number of chemists in Germany was very large and they were therefore forced to accept low wages. The prevalence of this low level of wages for chemists gave Germany a comparative advantage in the production of chemical goods which were steadily exported.

But if, in other countries also, there were similar groups of labourers (for example, chemists), receiving low wages, the comparative advantage of the first country due to lower money wages will be met by similar advantages of other countries. Relatively therefore, the position of no country will be worse or better in terms of money expenses. And the course of trade will be determined as before by the comparative efficiencies of production. Thus, if the various non-competing groups are in the same relative position in the different countries, their presence would not seriously modify the course of trade. But if the relative positions of the different groups are different in two countries,—for example, if chemists as a group receive lower wages in Germany and higher wages in the U. S. A.—the course of trade would be affected. "But in fact, the phenomena of social stratification are not widely divergent. Non-competing groups on the whole are arranged in the same series of grades in different countries."* Hence the course of international trade will not be materially affected by the presence of non-competing groups of labourers.

The Protectionist Controversy: The protectionist controversy is as old as economic theory. The desire to protect oneself against foreign competition has always been present in one form or other. At

* Taussig. *Principles*, Vol. II.

heart, we are all protectionist and would not like competition in any sphere of life, much less from the 'detestable' foreigners. Though a much-discussed topic, there is still some hazy thinking around this old question of Protection *vs.* Free Trade. This section will therefore be devoted to a consideration of this problem.

Free Trade: Free trade means simply freedom of international trade. It connotes an absence of any artificial impediment or restriction on the course of trade that would naturally follow between nations.

Free trade is the natural corollary of the law of comparative costs,—nay, of the division of labour itself. Foreign trade is like domestic trade; the freer each is, the greater will be the gain of both the parties. Just as because of the freedom of internal trade, a person is able to buy in the cheapest market and sell in the dearest, so free international trade will ensure that a country will buy in the cheapest market. The *rationale* of free trade depends on two propositions. *First*, the labour and capital of a country, if not hindered by government regulations, would tend to flow to those industries where they can be applied to the greatest advantage. *Secondly*, the total production of the world and of any individual country will be maximised if each country applies its capital and labour to those industries in which it possesses the greatest comparative advantage and then exchanges these products for articles which it cannot produce as cheaply as other countries. In the long run, therefore, each will gain under freedom of trade. "The fact of trade establishes an overwhelming presumption that the commodities obtained from abroad in exchange for exports are so obtained at lower cost than that which the domestic production of their equivalent would entail. If this were not the case they would not be imported, even under Free Trade."* The *third* proposition in favour of Free Trade is based on the defects of protectionist arguments.

Protection: The theory of protection implies that the domestic industries are to be sheltered against foreign competition by government regulations. Protection may be given in a variety of ways, of which the two most notable policies are the imposition of duties on foreign goods and the payment of bounties to domestic industries. Leaving aside the question which one of them is better, we shall now discuss the proposition whether the policy of protection is at all good.

Arguments for Protection: Most of the pleas for protection are coloured by prejudice rather than by reason, by non-economic considerations rather than by strictly economic arguments. Many of them are therefore easily refuted. We shall try to review them one by one.

* Viner. "The Tariff Question and the Economist." Quoted in Beveridge. *Tariffs*. P. 15.

The most common argument is that of "*keeping money at home.*" "When we buy manufactured goods abroad, we get the goods and the money. When we buy the goods and the money." This famous saying of Robert Ingersoll, often wrongly attributed to Lincoln, provides one of the most popular arguments for protection. The implications of this policy are never candidly faced. Since we buy from the foreigner instead of from the home producer, the presumption is that the former is offering goods at lower prices. Buying at home would mean buying in the dearer market. As consumers therefore we would suffer: We may of course agree to undergo this loss for the sake of other considerations. But that is a separate question.

The next argument is the famous *balance of trade argument*. It is the old mercantilist idea that the object of foreign trade was to amass bullion. And for this purpose exports should be encouraged and imports checked so that other countries are forced to send gold to our country. It is obvious that if all countries simultaneously followed this idea, none would gain. If everybody becomes anxious to sell, and nobody to buy where would we all be? Money or gold is not wealth. Our prosperity depends, not on the amount of gold in our possession, but on the facilities for obtaining goods at cheapest prices. And international trade is the agency through which we get goods at cheapest rates. Moreover, in long run, exports and imports must balance, and no country can go on exporting while shutting out imports.

Next comes the *home market argument*, mostly used in American tariff controversy. It is a corollary to the idea of "*keeping money at home.*" Protection would increase the number of persons engaged in protected industries and they would provide a good market for the products of other industries. But protection, by curtailing imports, would lead to a decrease in exports, and the other industries would therefore gain a home market by losing a foreign market.

The *wages argument* comes next. It is claimed that a country with high money wages would be undersold by another with low wages. Hence the former country must be protected against the latter. The fallacy of this line of reasoning has already been pointed out. Another form of this argument is that protection would tend to make wages high. As a result of the tariff, imports will be checked; gold will flow into the country and the price level will rise. Money wages would also rise. But because of the rise in prices real wages would actually be lower. High wages are the results of high productivity. Whatever lessens the productive efficiency of the country would lessen wages. Protection, by diverting labour and capital from the

most profitable industries would lower "general productivity, general prosperity, general wages."

Protection is often advocated for "*equalising the cost of production*" of home and foreign countries. If the domestic costs are higher than foreign costs by (say) 10 per cent, impose a duty of 10 per cent on imports. Thus place both on the same footing, and let them compete on equal terms. This argument has "an engaging appearance of fairness." But strictly followed, it would mean that the higher the domestic costs, the higher must be the duty. In other words, the least efficient industry would secure the highest protection. Carried to its logical conclusion, it would mean the annihilation of all trade; for international trade depends on the comparative differences in costs.

The really serious argument for protection is the *infant industries argument*, first stated by List. The central idea is embodied in the saying; "Nurse the baby, protect the child, free the adult." A country may possess great

Infant industries argument. natural advantages for the development of particular industries. But owing to the competition of well-established foreign rivals, it may be difficult for those industries to grow up. Beginnings are always difficult. If, during the initial stages, these infants are sheltered against foreign competition, they may eventually be able to grow to full stature and face the world with confidence. Protection, though it will inflict losses for the time being, will ultimately prove beneficial owing to the successful development of these industries. The theoretical validity of this argument is not denied by free traders. But this would justify the levy of *temporary* protective duties. Protection however tends to become permanent. "The infant industries never feel themselves grown up; if they grow up at all they devote their manly strength to fighting for bigger and longer protection."*

Protection is also advocated with a view to *diversify industries* in a country. Such diversification of industries is advocated on several grounds. *First*, it would lead to national self-sufficiency—an argument of great military significance. *Secondly*, a large number of occupations will lead to an all-sided utilisation of the physical and mental faculties of the people. Lastly, diversification of industries is advocated on the ground that it would enable a country to avoid the risk of depending on a single industry or a group of industries. A country, like an individual, should not put all its eggs in one basket. These arguments are mostly non-economic. National self-sufficiency may be a necessity on grounds of defence. Defence is of course greater than opulence. But here we agree to undergo losses for the sake of military safety, and that is a separate question. Moreover, the argument about the diversification of industries misses the real point. Increase of employment does not mean that prosperity will be increased. "The goal of economic effort is not employment, but wealth." Protection by

* Beveridge. *Tariffs*. P. 103.

diverting labour and capital to less productive uses will decrease general productivity and general prosperity.

The legitimacy of giving protection against the *dumping* of goods by foreign countries is admitted by most free traders. Such dumping means unfair competition and it disorganises domestic industries. But if dumping is permanent, no objection should be made against it. But most dumping is sporadic, *i.e.*, for temporary periods. There is no

Dumping and protection.

doubt that such dumping is injurious to the domestic industries, and it is perfectly justifiable to levy anti-dumping duties against such dumping. But since the dumping is temporary the duties should also be temporary. It is, however, the universal experience that protective duties once levied are seldom taken off. And "permanent tariffs, in the long run, are as certainly an impoverishment of the countries which they hold apart as are frozen seas or rockbound coasts."

The political evils are no less serious. The protected industries, instead of turning their attention to improving their organisation, apply their energies and money to bribe the legislators into passing tariff laws. Tariffs therefore grow like snow-balls and corrupt the body politic. Once levied, they are not easily taken off and they remain a permanent burden upon the country. Most of the familiar arguments for protection are hopelessly wrong. They find a happy breeding ground in the dark recesses of the prejudices of economic nationalism.

Protection and unemployment: Protection has often been advocated as a cure for unemployment. The restriction on foreign imports will lead to the expansion of domestic industries. The result will be that more unemployed people will be absorbed in those industries. But it is often forgotten that a restriction of imports would ultimately lead to a restriction of exports. So while employment may increase in the protected industries, there will be unemployment in the export industries. Hence there will be no net increase in employment.

In recent times, Keynes suggested two ways in which protective duties might be expected to result in a net increase of employment if the volume of exports could be maintained at the old level. *First*, if the country levying the protective duties, advances more loans to foreign countries, its exports can be maintained at the old level, and so the increase in employment in the expanding domestic industries will not be offset by unemployment in the export industries. *Secondly*, exports can be maintained at the old level, if bounties are given to exports from the proceeds of the import duties.

As regards the first method, of course it is true that exports can be maintained by increased lending to foreign countries. But then a substantial part of the capital resources of the home country would be diverted to foreign lands. This might result in a diminution of home investment. Moreover such a policy would not be a wise one. Restriction of imports from foreign countries will mean that we are curtailing their ability to sell goods. This will result in a diminution

of their prosperity. Would it be a wise policy to advance more loans to such countries? As regards the second method, a general export bounty would only result in retaliation by other countries which would take steps to levy anti-dumping duties. There is very little chance of maintaining the volume of exports by these methods. Thus while it may be possible to build up a case for protection as a cure for unemployment, such schemes are not practicable in real life.

If we study the real causes of unemployment, we shall see that tariffs cannot be expected to remove any of those causes. Unemployment may be due to, first, seasonal fluctuations in trade and industry. No one claims that these are removable by means of tariffs. Secondly, it may be due to the cyclical fluctuations of the industry. Trade cycles are an important factor causing unemployment. But they are not remediable by protection. Heavy protection has not enabled America to escape the ravages of the last trade depression. Thirdly, it may also be due to the changes in the industrial structure consequent on the adoption of new inventions and newer methods of production. Protection is clearly unavailable as an instrument to stop the wheels of progress, nor is it desirable that it should be so adopted. Lastly, it may also be due to the immobility of labour, or to the fact that the level of wages is maintained at a higher level in the country. Under such circumstances, "greater flexibility and detailed readjustment of wages are needed rather than a concealed attack on wages, through rising prices." Protection will not go to the root of the trouble, but will accept and perpetuate the rigidities from which the trouble is coming.

CHAPTER 41

FOREIGN EXCHANGE

What is Foreign Exchange? The term, 'foreign exchange' is used in a variety of senses. Sometimes, it is used to mean bills of exchange, banker's drafts, etc., payable in a foreign centre. In German language, this is denoted by the expression, 'devisen.' It is also used to mean the actual rates of exchange; for example, when it is said that the foreign exchange is favourable. It also refers to the mechanism, or the ways and the means by which the payments in connection with international trade are transacted. We shall use the term in this sense. Just as in the domestic transactions, cheques are used, so in the international payments, bills of exchange and banker's drafts are used.

How payments are made? Payments in international trade are generally made through bills of exchange and banker's drafts. A bill of exchange is an order drawn by a person upon a bank or another person, asking the latter to make certain payments to a third party. Suppose an Indian jute merchant *A* has exported jute of the value of Rs. 1,000 to an English merchant *B*. Also another Indian merchant *C* has imported textiles of the value of Rs. 1,000 from *D*, an English merchant. If the transactions are settled by

Operation of a bill of exchange. *B* sending gold to *A* and by *C* sending gold to *D*, that would mean double expenditure

in the cost of carriage. But suppose the Indian exporter draws a bill on the English importer and sells it to the Indian importer. The Indian importer, in his turn, buys the bill and sends it to the English exporter who presents it to the English importer and receives payments from him. Thus without any movement of money, the two debts are settled by a bill. This is the way by which bills are used to finance foreign trade. In recent times, the use of bills is decreasing, and settlements are now made by means of *banker's drafts* or *cable transfers* (in the case of urgent payments). The importer goes to a bank, buys a draft and sends it to the exporter. The latter presents it for payment to the foreign branch or agent of the bank.

Bills may be "sight" bills, or "long" bills. A *sight* bill is a bill payable at sight, i.e., on presentation. A *long* bill is payable after a certain period, mostly 90 days after presentation. If the importer, or an accepting house on his behalf writes "accepted" on the face of the bill and signs his name the bill is said to be "accepted." The acceptor then becomes liable for paying the bill. If the bill is sold in the money market, it is said to be "discounted." The seller receives the face value of the bill less the interest at an agreed rate for the currency of the bill.

Balance of payments : It is necessary to know the items for which payments are likely to be made to, or received from a foreign country. First of all, a country has to pay to others on account of the goods it has brought from them, *i.e.*, on account of the imported goods. It will also receive payment from other countries on account of the goods it has exported to them. In addition to goods, a country also exports or imports services. These consist chiefly of shipping, banking and insurance services. If we utilise the services of foreign shipping, foreign banks or insurance companies, we shall have to pay to these countries for the service rendered by them and *vice versa*. These constitute the second item in the balance of payments. Thirdly, we should include the expenditure incurred by tourists in our country and by us in foreign countries. When American tourists travel through India, we are exporting the goods (consumed by them) and the sights (enjoyed by them), and so shall receive payment from them. On the other hand, when Indians are touring in foreign lands, we have to pay to these countries. Fourthly, there are also miscellaneous items of payments, *e.g.*, charitable contributions made by one country to another, immigrant's remittances, etc. Good examples of such remittances are furnished by the sums sent every month by the British civil servants working in India for the support or education of their families in England. India has also to pay large sums to England to meet the expenses incurred by the Indian students in England. Similarly, the remittances of the Government of India to meet the expenses of the Secretary of State for India-in-Council, or of the High Commissioner for India, etc., fall in this head. Tributes, indemnities or reparations made by one country to another often give rise to the necessity of making large payments. Fifthly, if a country has invested large sums of money in foreign lands, it will receive interest payments from them year after year. Conversely, a borrowing country will have to pay interest to the lenders in foreign countries. Sixthly, a country will have to pay to another country immediately if it has granted loans to it as it will have to transfer the loan. A borrowing country will have to transfer large sums of money to the lenders at the time of repayment of loans. Lastly, a country will receive payments from others if it has succeeded in selling its own securities to foreign nationals. Conversely, it will have to pay if its own nationals have purchased securities of foreign countries.

A complete list of these items on both sides is called the balance of accounts, or the balance of international indebtedness. Various classifications have been applied to these items. The most common classification is to divide them into visible and invisible items. The *visible* balance consists only of goods that are exported or imported. The other items are regarded as *invisible*. The visible balance of exported and imported goods is sometimes known as the *balance of trade*. This balance is regarded as *favourable* when the value of exported goods exceeds that of imported goods. This expression is

a relic of mercantilist days when an excess of exports was considered favourable as it brought gold from foreign countries. So an excess of imported goods over exports was regarded as *unfavourable* as then the country would have to send gold to pay for the excess. But a favourable balance of trade does not always indicate that the country will get gold from others. It may simply mean that it is a debtor to others on other items in the balance of payments. It may be a borrowing country, and so has to pay large sums to others in interest; or it may be using the services of foreigners in banking, shipping, etc. So it has to send excess quantities of goods to others to pay for these items.

Equality of exports and imports. While the balance of trade of a country may thus be favourable or unfavourable, its balance of payments cannot be so. If a complete account of all items of payment made and received by a country is carefully prepared, all the items must balance one other. In the case of an individual, the income and expenditure must balance during a given period. If, however, the

expenditure exceeds income, then he must either be drawing upon his previous savings, or borrowing from others. If his income exceeds his expenditure, then he is saving.

In what sense is it true to say that exports pay for imports? In any case, his income *plus* or *minus* loans or savings must be equal to his expenditure. Similarly in the case of a country. If the payments received by a country from others exceed (or fall short of) the payments it makes to them, then it must be accumulating (or drawing upon) balances in foreign countries. In other words, it is lending (or borrowing or drawing upon previously accumulated) balances to these countries. So its other receipts *plus* or *minus* loans or savings must be equal to its payments.

It is in this sense that we say that exports of a country must be equal to its imports. Exports of goods may exceed or fall short of imports. This fact of a favourable or unfavourable balance of trade does not falsify the statement. Exports and imports include all items in the balance of payments. Thus exports include not only goods, but such items as services of various kinds, loans, tourist expenses, charitable payments, indemnities, etc. All these items must balance one another.

How does such a balance always balance itself? Suppose that a country's receipts from others exceed its payments. The individuals of that country who will receive foreign payments sell the foreign currency to their banks, and receive local money in exchange. After the transactions are complete, what will happen is this that the banks of the country will accumulate larger balances in foreign countries. If they keep these balances in foreign centres, they will be lending the money to the latter. In any case, its receipts (including the loans) will be equal to its payments. The balance sheet still balances. If, next, the banks withdraw their balances from foreign countries, the

latter will send gold to the former. Gold will move into that country. The reserves of the banks increase. So they lend more money in the market, and lower the rates of interest. This stimulates investment and causes an increase in money incomes. Prices will rise in that country. Because of higher prices, its exports will decline, while imports will increase. Ultimately the two will thus balance.

How the Rate of Exchange is determined? The rate of exchange is the ratio at which the domestic currency can be exchanged against foreign currency. The actual rate of exchange is determined under stable currency conditions by the demand for and the supply of the foreign currency. The latter is in its turn dependent on the balance of indebtedness. Hence it is argued that the actual rate of exchange is determined by the balance of indebtedness of a country. If the balance is unfavourable, i.e., if the country imports more than it exports, the demand for foreign currency will increase, and the rate of exchange will fall. And the converse happens when the balance becomes favourable. This is known as the *Balance of Trade Theory*. That the immediate influence determining the rate of exchange is the balance of payments, no body would deny. But this furnishes only a very superficial explanation. Why the volume of exports and imports is so much and not more? Why the balance becomes favourable at one time and unfavourable at another? In other words, what are the forces determining the balance of trade and therefore the exchanges? So the foreign exchange theory should explain the causes which determine the balance of payments. Moreover, the balance of payments is often the result rather than the cause of exchange rates. In cases of paper standard, first the rates of exchange move and then the latter influence suitable changes in the balance of trade. The theory therefore cannot furnish the real causes determining the rates of exchange.

Purchasing Power Parity Theory : Rediscovered rather than invented, the theory has been popularised during the inter-war period by Gustav Cassel, the Swedish economist. According to this theory, the rates of exchange between two countries are determined by the relative price-levels. The actual rate of exchange must be such that the same amount of purchasing power, when exchanged at that rate, must buy the same amount of goods and services in both the countries. If, by spending Rs. 15,

The rate of exchange is a function of price-levels.

we can buy the same amount of goods in India as we can buy with £1 in England, the rate of exchange between England and India will be Rs. 15 to £1, i.e., 1s. 4d. per rupee. "This is easily seen if we reflect on the fact that the price paid in a foreign currency is ultimately a price for foreign commodities, a price which must stand in a certain relation to the prices of commodities on the home market. Thus we arrive at the conclusion that the rate of exchange between

two currencies must stand essentially on the quotient of the internal purchasing powers of these currencies."*

The rate of exchange determined in relation to the price-levels is known as the "Purchasing Power Parity". This is a norm round which the actual rates of exchange will vary. So long as the relationship between the two price-levels remains unchanged, the rates of exchange will tend towards the parity. But it should be noted that this parity is not a fixed par like the gold points. It is a moving par,—changing with changes in the price-levels.

But it is usual for the price-levels of the different countries to remain at different levels. Hence it is difficult to compare the general price-levels of the countries without assuming a standard or a base year. 1913 is generally taken as the base year. The relationship in the different price-levels and the rates of exchange in that year are taken as normal. If the relationship between the two price-levels changes, the rates of exchange will also change in the same proportion. As an illustration, let us assume that the index-number of prices in the U. S. A. was one and half times greater than that in England in 1913, and that the rate of exchange was 4·8 dollars to the pound. Suppose in 1914 the price-level in England has doubled, that of the U. S. A. remaining the same. The rate of exchange will be 2·4 dollars to one pound. The value of the pound in terms of dollar will be halved as the English price-level has doubled while American prices are the same.

It should be noted that the purchasing power parity is determined by comparing the general price-levels and not the price-levels of internationally traded goods. The prices of exports and imports must remain at the same level in every country (barring, of course, cost of transport, tariffs, etc.) Moreover, they are often the result of changes in exchange rates. Hence it is easy to verify the theory by comparing the International Standards (*i.e.*, the price levels of international goods). And the prestige and the so-called verifications of the theory from a comparison of the existing wholesale index numbers are due to the fact that the latter are overloaded with internationally traded goods.† But the parties should be "measured only by general index figures representing as far as possible the whole mass of commodities marketed in the country". When this is done, the actual rates of exchange will not always be the same as the parities thus determined. In the short period, prices of domestic goods may move in a different direction from the prices of foreign trade goods. And the actual exchange rates will not conform to the parities. In the long run, of course, the rates of exchange and the price-levels will tend to move in the same direction; and the theory may, therefore, hold good

* Cassel, "Foreign Exchanges." Article in the *Encyclopædia Britannica*, 13 Ed., First Supplementary Volume, P. 1086.

† Keynes. *Treatise on Money*. Vol. I. P. 73.

only in the long period.* Moreover, many items of the balance of payments, *e.g.*, insurance and banking transactions, capital movements, etc., are affected very slightly at all by changes in the general price-levels. But they influence the exchange-rates and their influence may drive the rates in a different way from that shown by a comparison of the index numbers. They are important determinants of the exchange rate, but in Cassel's theory their operations are neglected.†

The theory is really an explanation of monetary adjustment, and states that if the essential conditions of international trade remain unchanged, foreign exchange rates will reflect the price-changes. But like the famous "other things" of quantity theory, the conditions of international trade never remain the same. In particular the barter terms of trade are constantly changing owing to changes in the demand for foreign goods, changes in the conditions of supply of exported goods either produced at home or abroad, changes in the volume of foreign loans, changes in the costs of transport and in every item in the invisible balance of trade. If the barter terms of trade change, the relationships between the price-levels of the different countries change, and the parities determined by comparing the former price-level relationships will fail to reflect changes in exchange-rates. The theory is thus true only under circumstances when the terms of trade do not change.

Fluctuations of the rates of exchange : The actual rates of exchange fluctuate above and below the mint par. What are the causes which influence the movements of the rates of exchange ? They may be grouped under two main heads;—the demand and supply of foreign currency, and the currency conditions. The demand and supply of foreign currency arises from three sources:—(1) *Trade conditions*, (2) *Stock Exchange influences*, and (3) *Banking influences*.

(1) The demand and supply of foreign currency are dependent primarily on the volume of exports and imports. When exports are greater than imports, the foreigners owe to us

Trade conditions. a greater sum than we owe to them. Their rate of exchange moves in our favour. Conversely, when imports are greater than exports, the demand for foreign currency is greater than the supply and the rate will fall. Among exports and imports, we must include not only goods, but the invisible items, because these also give rise to the demand for and the supply of foreign currency.

(2) Stock Exchange influences include the payment of loans, interest, and repayment of loans, the purchase or sale of foreign securities by home investors, or of home securities by foreign investors. When a country gives loans to another, the loans have to be transferred

* Keynes. *Tract on Monetary Reform*.

† Ohlin. *Inter-regional and International Trade*. p. 545.

into the foreign currency. Its demand for foreign currency increases, and the rate of exchange moves against it.

Stock Exchange influences.

Similarly, when home investors buy foreign securities, or home securities are sold by foreigners, the rate falls. But when the loans are being repaid; or when the foreigners buy domestic securities, the demand for home currency on their part rises, and the rate of exchange rises.

(3) Banking influences include the purchase and sale of banker's drafts, traveller's letters of credit, arbitrage operations, etc. When a bank issues a draft or a letter of credit, etc., on a foreign branch, the demand for foreign currency rises, and the rate of exchange falls.

Banking influences.

Bank Rate is also an important influence on the rates of exchange. When it is high (*i.e.*, in relation to other centres), foreigners will send funds to that country to earn the high rate of interest. The demand for home currency rises and the rate of exchange moves up. Opposite happens when the Bank Rate is lowered.

(b) *Currency conditions.* The conditions of currency in a country also exercise important influences on the rates of exchange. If there is a chance that the currency will depreciate, due to (say) an over-issue of paper money, the demand for that currency will fall off,

Currency conditions.

since no body wants to transfer his funds into a currency whose purchasing power is depreciating. The rate of exchange will therefore rise, and may jump up to abnormally high figures if there is a "flight from the foreign currency," *i.e.*, if the foreigners, not liking to invest their funds in their home currency, hasten to transfer them to foreign countries where purchasing power is more stable. Similarly, when the currency of one country is based on silver and another on gold, the rates of exchange will depend on the gold price of silver. Besides these, many other causes influence the rates of exchange, *viz.*, the political conditions, the growth of speculative sentiment, etc.

Limits to the fluctuations of exchanges: When both the countries are on gold standard, the actual rates of exchange will fluctuate around the mint par of exchange within limits fixed by the gold points. The *mint par* is determined by the amount of pure gold in the coins of each country. One gold sovereign, for example, contained as much pure gold as 4.86 dollars in pre-war days. The mint par between England and America was therefore 4.86 dollars to the pound. The rate of exchange is said to be at par when it is the same as the mint par. The rate of exchange will however fluctuate above and below the mint par. The limits to the fluctuations in the rates of exchange are fixed under gold standard by the *gold or, specie points*. Though by sending one gold sovereign, we could have obtained 4.86 dollars, there were certain expenses in connection with the shipping of gold. In addition to the trouble of sending, the gold exporter would have to pay charges for freight, insurance, etc., and would lose

interest during the period of transport. The actual sum to be paid on account of these charges may often be considerable. The actual *gold export point* is therefore determined by adding the shipping expenses, etc., to the mint par. Similarly, the *gold import point* is found by subtracting the shipping expenses from the par. The merchants will buy bills in order to make payments to foreign countries, so long as the price of bills is within the gold points. But if the price of bills is higher than the gold export point, they will send gold instead of sending bills. Similarly, when the rate of exchange touches the import point, gold will be imported. Unlike the mint par which is stable so long as the gold contents and the fineness of the coins are not changed, the gold points are variable according as the cost of freight, insurance, etc., increase or decrease. In recent times, owing to the development of aeroplane transport, the time taken to send gold has been shortened. So some saving is made on account of interest. Moreover, the freight, and insurance charges are not higher. Hence the gold points have become narrower.

A country is said to have *favourable exchange* when the rate of exchange is near the gold import point; it has *unfavourable exchange* when the rate is near gold export point. When we have imported more and exported less we shall have to pay the foreigners for the imports by sending gold or other funds. The exchange is then said to be unfavourable. Conversely, when our exports are greater than our imports the foreigners must pay us by sending gold. The exchange is then said to be favourable.

When both the countries are on inconvertible paper currency, there are no gold points. The mint par is replaced by the Purchasing Power Parity, determined with reference to the price levels of the two countries. Unlike the mint par, the purchasing power parity is a moving par, changing in response to every change in the prices. Though there is a par of exchange, there are, however, no limits to the fluctuations in the rates of exchange. The latter will fluctuate in accordance with every change in the demand and supply of foreign currency.

Ricardian theory of Gold Movements : It was the classical theory that the precious metals were automatically distributed among the different countries according to their necessities of trade. This theory is attributed to Ricardo who stated, "Gold and Silver having been chosen for the general medium of circulation, they are, by the competition of commerce, distributed in such proportions amongst the different countries of the world as to accommodate themselves to the natural traffic which would take place if no such metals existed and trade between countries were purely a trade of barter." Suppose the trade and production of a country have expanded, while its supply of gold has remained the same. Such an expansion of trade without an expansion of the currency would cause the prices to fall. That is,

the value of gold rises in that country. The lower prices will make that country a good place to buy and a bad place to sell, and so its exports will increase and imports will decrease. Gold will therefore be imported into that country. As gold is imported, the prices will rise in that country and fall in others until the exports and imports balance and gold movement ceases. Thus through international trade and the mechanism of foreign exchange, gold will always tend to flow where it is needed, and there will set in a tendency towards price stability between countries.

There are of course other implications of the Ricardian theory. For example, it implies that money is merely a colourless medium of exchange and the introduction of money does not modify the course of trade between countries. But here we shall neglect that aspect. The gold movements are therefore, according to Ricardo, based on goods, and there is an automaticity about the whole affair. Recent events have shaken the truth of this statement. Gold movements are not due solely to the changes in the conditions of trade, neither is there any automatic connection between the gold movements and the prices.

Gold movements are now-a-days caused, *first*, by the rise or fall in the price level and the resulting favourable or unfavourable balance of trade; *secondly*, by the international movements of funds, and *lastly*, by psychological causes like the distrust of the investors.

There exists in any financially developed country a great volume of funds which is usually invested for very short-periods. This is known as the international short-loan fund. Its volume has recently increased owing to the unwillingness of the investors to invest in long-period securities, lest the value of their savings would fall on account of the depreciation of the currencies of the world. These funds move between the different international centres in accordance with the rates of interest prevailing in those countries. If the rate of interest is higher in London than in New York, funds will move into London. They are also caused by psychological causes. If, due to any reason, a feeling of distrust is generated in the minds of the investors as to the future of the sterling, these funds will move away from London. The movements of these short-loan funds will generate gold-flows which are in many instances unrelated to the trade conditions.

Moreover, gold movements are no longer allowed to exercise their proper influence on the prices. By means of open market policy, the central banks sterilise or offset the imports or exports of gold. In this way, the automatic distribution of gold between the different countries is impeded. The recent mal-distribution of the world's gold supply is an eloquent commentary on this lack of automaticity of gold movements.

Lastly, Ricardo assumed that the disturbances in the price level of a country, by causing a deficit or surplus in the balance of trade

will be rectified by gold movements. But now-a-days the whole machinery of central banking is intended to set limits to gold movements. When the balance of trade and the rates of exchange tend to become unfavourable, the central bank raises its rate of discount. Foreign funds at once flow into the country (if there are no other disturbing causes), and the rates of exchange become favourable temporarily without an export of gold. In this way, the mobility of the international short-loan funds and the changes in the central banking practices have upset the Ricardian theory of the automatic distribution of the world's gold supply.

Loan payments in international trade : Following Cairnes, we may divide the loan transactions into three periods:—first when the loan is being transferred, second when interest is being paid, and third when the loan is being repaid. Let us suppose that England has advanced loans to the U. S. A. At the time of negotiation, the exports and imports of each country balanced and the foreign exchange was at par. In this situation, the loan negotiation has been concluded. If the whole of the loan is spent in England in purchasing goods, the value of its exports will go up by the amount of the loan. Exports will increase directly and the loan will be transferred through movements of goods. But if the whole amount of the loan is not so spent, England would have to transfer the sum to the U.S.A. and for this purpose the demand for dollars in terms of sterling will rise. The value of sterling in terms of dollar will fall and the exchange will touch the gold export point. Gold will move out of England. Owing to the depletion of the gold reserves, the Bank of England would raise its Bank Rate and would thus inaugurate a period of credit contraction. Prices and money incomes would decrease. The fall in prices would stimulate the volume of exports from England. As a result of these two movements, the balance of trade would become favourable to England and the loans would be paid through increased exports. In the long run therefore, exports of England would be greater than imports, the prices and money incomes would be lower. The opposite will happen in the U. S. A. Its imports will be greater than exports; prices and money incomes will also be higher. When interest would have to be paid, the borrowing country will tend to develop an excess of exports over imports. During the third stage when it will have to repay the loans, the mechanism will now be reversed. The U. S. A. will now tend to develop an excess of exports over imports, prices and money incomes will fall. The opposite will happen in the case of England which will have a visible unfavourable balance and a higher level of prices and money incomes. This is the neo-classical analysis regarding the mechanism of transfer of one-sided payments made by one country to another. According to this analysis (known as the price-specie-flow mechanism), the loan or any payment made by one country to another will be transferred in the form of an excess of exports from the paying country. This excess of exports will develop

as a result of a fall in the prices in that country. But in recent times Ohlin and other economists have expressed doubts about the validity of this analysis. Loans are of course transferred through an excess of exports over imports. But this export surplus tends to develop, not because of changes in prices, but because of changes in the purchasing power of the two countries. When England grants a loan to India, this fact causes a fall in the buying power of the people of England, and a rise in that of Indians. This is clearly obvious. When A borrows money his buying power increases, while that of his creditor decreases. Since the buying power of Englishmen decreases, they will purchase a smaller amount of goods than before, including smaller imported goods. Imports into England will tend to decline, while a large portion of domestic goods will be available for exports. The Indians will purchase larger quantities of goods as they now possess more buying power. So they will purchase more imported goods at existing prices, a large part of which may come from England. In this way, England will tend to develop an export surplus sufficient to transfer the loan. It is not necessary that prices should fall in England, or rise in India. A change in the buying powers, consequent on the granting of the loan, is a sufficient condition for the emergence of the export surplus by the lending country.

The truth probably lies in a middle position. There is no doubt that the payment of the loan causes a change in the buying powers (*i.e.*, a change in demand), and this will give rise to some amount of export surplus. There have also occurred on many occasions some shifts in the prices in the two countries which have facilitated the transfer of payments from one country to another.

Exchange depreciation and exports: It has been claimed that the depreciation in the exchange rates of a country would give a bounty to its exports. As a result of the fall in the rates of exchange, the producers of exported goods receive more money by selling their goods in the foreign markets. Their costs in the form of wages do not rise at once, or do not rise as much as their receipts do. They thus get an extra profit, a bounty. Thus so long as the internal prices and costs do not rise by the same percentage as the fall in the rates of exchange, this will give a stimulus to exports.

But exchange depreciation may follow the internal rise in prices. The fall in the rates of exchange may be less than the rise in internal prices. There will then ensue a bounty to imports, and exports may be checked. As Taussig has pointed out, "the events may take the opposite course. Exchange may rise less than prices. . . . There is nothing in a-priori reasoning and nothing in the history of paper money to lead to a presumption that the exchange will rise faster or slower, more or less than prices." Exchange depreciation does not in itself lead to such rates of foreign exchange as will give a bounty to either exports or imports.

There are certainly occasions when depreciating exchanges may give rise to a bounty to exports. If, as in Germany during 1919-1924, the government issues large quantities of paper money and uses them to make remittances to foreign countries, the rates of exchange may move faster than prices. Harris has found, in his study of exchange depreciation after 1931, that "statistical material gives support to the position that paper countries gained an export advantage."

But it should be noted that such stimulus is only temporary. Sooner or later, prices and costs will move in the same proportion as the rates of exchange, and the bounty will disappear. The producers of exported goods will not enjoy the bounty indefinitely, as compared with other home producers. Some of the latter will transfer to the export industries. Exports will increase, and with them, the exchange rates will go down. The more rapidly will the exports increase, the sooner will the bounty vanish.

Other factors must also be taken into consideration. As Harris has pointed out, "economic conditions abroad may play an important part. It is in fact necessary to study the supply and demand conditions of each commodity. The demand for some may be elastic, and for others inelastic. Further more, important shifts in demand will occur. Upon these and others will depend whether or not any particular country's exports will expand."* Moreover, such stimulus may not appear during the period when the exchanges are depreciating. Anticipating further depreciation, foreigners may at first postpone further purchases from the country with depreciating exchanges. If imported raw materials are used largely in the production of exported goods, the increased cost of the imports may offset the export advantage. Lastly, devaluation of the currency is a game which can be played by every country. If the other countries adopt similar currency policies, or if they levy heavy anti-exchange-dumping duties, the effects may not be favourable in any way.

Forward Exchange : When both the countries have inconvertible paper standards, there are no limits to the fluctuations in the rates of exchange. All foreign trade therefore becomes uncertain and risky. What are the methods available for eliminating these risks of exchange?

One method is to make all contracts with the clause, "exchange as per endorsement". That is, the rate of exchange is fixed in the contract at which the debtors will have to make payments. The second method is through a forward contract in foreign exchange.

The essence of a forward exchange contract is that a person who will have to make or receive payments in a foreign country after a certain period settles the rate of exchange with his bank. Suppose the Indian importer will have to pay the English exporter £1,000 after

* Harris. *Exchange Depreciation*.

3 months. Unless he can know the actual sum of rupees that he will have to pay for getting £1,000, he cannot fix the prices of the imported goods for sale. He goes to his bank and buys forward sterling at a rate agreed on now. That is, he settles the rate at which the bank will give £1,000, so that he can know beforehand how many rupees he will have to pay at the end of the period. Thus he is relieved of the risks of exchange fluctuations. The rates of forward exchange are quoted in terms of "spot" rate, i.e., the rate actually prevailing on the date of contract. When forward exchange is quoted at a discount, it means that a greater amount of foreign currency can be obtained for home currency. When it is quoted at a premium, a less amount of foreign currency is available.

What are the factors determining this premium or discount on the spot rate? The *first* is the relative rates of interest at home and abroad. Now in a forward contract, though the merchant is relieved of risks of exchange fluctuations, the bank has to bear them and it is not its function to assume unnecessary risks. The bank will try to reduce its risks by transferring the required funds at once to the foreign centre. And this it will be eager to do if the rate of interest at the foreign centre is higher than the rate at home. For it will then be able to earn higher interest on its funds. Hence when the rate of

Factors determining forward rates.

interest on the foreign centre is higher than the domestic rate, the bank will quote forward exchange at a discount. *Secondly*, another factor is the chance of "marrying" a contract. Instead of sending funds, the bank may offset one transaction with an opposite one. While some merchants will want foreign currency, there will be others who has command over foreign currency and want to sell it in exchange for home currency. The bank will "marry" the two contracts and take foreign currency from the sellers and give it to the buyers, thus running no risk. Thus if the bank has already bought forward exchange, it will quote favourable terms for selling forward. The greater the chances of marrying a contract, the more favourable will be the terms. *Thirdly*, currency conditions, viz., the possibility regarding the depreciation of the foreign currency, etc., will influence the determination of the rate. If the outlook regarding foreign currency is bad, the bank will be unwilling to buy such currency and will quote a premium.

Exchange Equalization Account : After England went off the gold standard in 1931, it was felt that some device should be adopted which would control the abnormal fluctuations in the rates of foreign exchange. As a result, an Exchange Equalization Account was established in 1932 to control the abnormal movements in the rates of exchange, and to insulate the internal monetary market from the effects of such movements. Afterwards, when in course of time, France and America abandoned the gold standard, their governments also

established special funds or Accounts to steady the fluctuations in the rates of exchange. From the beginning, the activities of these Accounts have been conducted under extreme secrecy, and an atmosphere of mystery surrounds them. In this section, we shall discuss the functions of the British Exchange Equalization Account, as the other Accounts are worked more or less in the same way.

The British Exchange Equalization Account is directly under the control of the British Treasury, and its day to day business is conducted by the Bank of England as the former's agent. Its resources consist of Treasury Bills issued by the government, and gold purchased in the open market, or from the Central Banks of France and America. At the outset, the government handed over Treasury Bills worth about £175 millions to the Account. The amount was later raised to £575 millions in 1937. It had no foreign assets in the beginning. But the Bank of England sold some foreign assets which it had accumulated previously. The Treasury Bills are renewed every three months. The main purpose for which the Account has been established is to buy and sell sterling in exchange for foreign currencies. When the foreigners want to transfer their funds into sterling, it is the business of the Account to sell sterling to these people, and thus prevent a sudden rise in the sterling exchange rate. Of course the authorities are not supposed to use the Account to interfere with the secular and permanent tendencies in the foreign exchange market. It will try to eliminate the temporary ups and downs in the foreign exchange rates due to the activities of the speculators or the nervousness of the investors. In other words, it seeks to do away with the adverse effects of an influx or efflux of "bad money" in the foreign exchange market. Its aim is thus to insulate the banking system from the foreign exchange market and to steady the rates of exchange as far as it is consistent with long-term trends. Thus the domestic monetary market and the foreign trade are left undisturbed, and can proceed smoothly.

At first the Account purchased dollars in exchange for sterling and influenced all other rates through the dollar-sterling rate. The dollars thus acquired were immediately converted into gold in New York. After 1933 when the U. S. A. went off gold, the Account operated in francs, and converted them into gold in Paris. Things became difficult when France abandoned gold standard. But the difficulty was avoided when the Tripartite Monetary Agreement between England, France and the U. S. A. was signed in October, 1936. Under the Agreement, the three countries agreed to buy from each other their own currencies in exchange for gold during the next 24 hours.

The actual operations of the Account are too complicated to be described within a short compass. Suffice it to say that the technical apparatus for controlling the foreign exchanges and the bullion market

has been developed in an adequate manner. The efficiency of the system in neutralising or eliminating all temporary or speculative ups and downs in the foreign exchange rates cannot be doubted. But it should be remembered that it cannot solve the more fundamental problem of effecting an equilibrium between the price and income structures of the different countries.

CHAPTER 42

TRADE CYCLE

The course of productive activities, like the course of weather never runs smooth. It has its ups and downs. A period of prosperity is generally followed by a period of depression. These fluctuations in business activities,—the see-saw movements of booms and depressions—are known as the *trade cycle*, or the business cycle. "A trade cycle is composed of periods of good trade characterised by rising prices and low employment percentages, altering with periods of bad trade characterised by falling prices and high unemployment percentages."* Two tendencies stand out as prominent characteristics of a trade cycle. It connotes first a fluctuation in the productive activities as measured by the figures of unemployment; second, a fluctuation in the price level. In the upward phase of the cycle, productive activities expand, unemployment is diminished, and prices rise. In the downward phase, productive activities are curtailed, unemployment increases, and prices fall. Generally two phases mark the occurrence of these cycles;—prosperity and depression; sometimes a third is also found between prosperity and depression, *viz.* crisis.

The term "cycle" is applied to these fluctuations "because an excess movement in one direction tends to bring into operation not only its own remedy but a stimulus to an excess movement in the other direction."† Like the swing of a pendulum, a movement in one direction will automatically generate movements in the opposite direction. Periods of prosperity contain within them the seeds of the coming periods of depression. Moreover, these cyclical movements denote a certain amount of periodicity. There is a sort of regularity in the time intervals between the phases of the cycle. It was claimed in early days that the time usually occupied by a cycle was ten or eleven years. But the time intervals are far from regular.

A few prominent characteristics of the trade cycle may be noted here. *First*, the cycle is synchronic. That is, the upward and downward movements tend to synchronise or occur at approximately the same periods in all industries. When business is good in one industry, it gives more orders to others for raw materials, machineries, etc. It employs more labourers and the latter's aggregate incomes are increased. These additional orders and additional incomes bring good trade to other businesses. Similarly, periods of distress in one industry spread to others. The trade and business of a country are

* Hawtrey. *Trade and Credit*. P. 83.

† Keynes. *Treatise on Money*. Vol. I, p. 278.

so interconnected that a wave of prosperity or depression in one industry would soon generate a similar wave in other industries. *Secondly*, these cyclical movements are international in character. Through the mechanism of international trade and foreign exchange, businesses in countries are so inter-linked that a prosperity in one country will spread to, and be shared by others also. *Thirdly*, though the alternate movements of booms and depressions are shared by each industry, they are not shared in equal degree by all industries. It is a familiar fact that what are called "constructional industries,—ship-building, engineering and other industries making investment goods, experience the largest fluctuations. During the upward phase, a greater part of the resources of the community is devoted to the production of investment goods, while during the downward phase, a smaller part is so devoted. The fluctuations are far wider in industries making producer's goods than in those making consumer's. *Lastly*, the cycles exhibit a clearly marked wavelike movement. And the different cycles are nearly similar to each other. "A 'typical' cycle constructed by making as it were a composite photograph of all the recorded cycles would not materially differ in form very widely from any one of them. But this typical cycle is not an exact replica of any individual cycle. The rhythm is rough and imperfect. All the recorded cycles are members of the same family, but among them there are no twins."*

Causes of Trade Cycles: Various theories regarding the origin of trade cycles have been advocated. It is impossible to review them in the short compass of this book. We shall however take the main types of theories and discuss their appropriateness. Before proceeding to that, it is necessary to dispel one mistaken idea about the causes of the depression.

Trade depression, it is claimed, is due to the general over-production of goods. But if it means that man has produced more goods than he desires to consume, it is impossible. It implies that man's wants are completely satisfied; that each individual has as many goods as he likes to consume. But no such conditions can exist in modern society. There are no limits to the total wants of human beings. Over-production is possible only in the sense that goods cannot be sold at a profit. Such a phenomenon is quite possible. Owing to a faulty anticipation of demand, more goods may be produced in particular industries than can be sold with profit.

Can there be general over-production?

There occurs partial over-production in particular industries. Smaller orders for machineries, raw materials, etc., are given by these industries and labourers become unemployed. Their incomes fall and they purchase less of other goods. The result is that other industries are also

* Pigou. *Industrial Fluctuations*. Pp. 15-16.

depressed. But this cannot continue for long. Labour and capital will move from those industries, and slowly and steadily the state of over-production will pass off. The phenomena of general over-production are therefore impossible. Moreover, over-production is the *symptom* of trade depression and cannot be *its cause*. We cannot explain depression by saying that it is caused by the accumulation of large stocks of unsaleable goods.

Climatic Theories: Following a suggestion of Herschell, Jevons came to the conclusion that trade cycles are caused by "sun-spots." These sun-spots occurred in cyclical order at intervals of 10.45 years, and he calculated that the average length of the trade cycle was also 10.46 years. When these sun-spots appeared, the sun emitted less heat and this made the harvest poorer. Bad harvests diminished the purchasing power of the agriculturists, and they purchased less goods. The result was depression. In a modified form, this theory is held by H. L. Moore and Sir William Beveridge.

That the prospects of agriculture affect the prospects of industries, nobody would deny. But it is difficult to correlate business cycles with climatic cycles. Climatic influences may be one of the factors which sometimes affect the course of the trade cycle. But they cannot account for all the features. For example, they cannot explain why the production of capital-goods increases more during booms than during depressions.

Theories of Over-saving or Under-Consumption : Developing a line of thought prominent in Marxian theory, Hobson came to the conclusion that the trade depression is due to "over-saving". The modern society is characterised by great inequality of incomes, and a large portion of the total wealth is owned by a small class. In times of brisk business, the incomes of this class increase and a greater proportion of them is saved. The wealthy businessmen continuously invest their savings in productive enterprises, in turning out more machineries, tools, etc. There results a deficiency of purchasing power available for buying consumer's goods, and this is borne out by the familiar phenomenon of wages lagging behind prices. Thus while purchasing power is diminished, the supply of goods is increased as the new machineries, etc., are employed. The result is a glut of goods in the market which cannot be sold at a profit. And the society enters upon a period of depression. This is due to the lack of sufficient money to buy goods; and the latter is due to the fact that a greater proportion of incomes has been withdrawn from consumption, and has been saved. This deficiency of spending and the excess of saving are the cause of depression. In slightly different forms, this theory is also held by Messrs. Foster and Catchings and Major Douglas.

This theory provides an explanation, not of trade cycles, but of depressions. Even as an explanation of depression, it is defective. There is no reason why the business class would continuously go on

saving. They may increase their expenditure on luxuries. Moreover, it assumes that the amount saved would automatically be invested. But this is not always the fact. According to this theory, depression occurs because more consumer's goods have been produced than can be sold. We should expect therefore that the first sign of depression would be the fall in the price-level of consumer's goods. But in actual fact, depression in its first phase is characterised by a fall in the prices of producer's goods, and the price-level of consumer's goods is generally the last item to fall.

Monetary theory of the Trade Cycle : According to this view, whose most prominent advocate is Hawtrey, the trade cycle is a "purely monetary phenomenon". In the modern currency systems, bank credit forms the principal means of payment. But credit is inherently unstable. It lies in the power of the banking system as a whole to create more credit. This they can do by lowering the rate of discount or by the purchase of securities. The upward movement of the trade cycle is brought about by an expansion of credit engineered by the banks. This additional credit borrowed by businessmen is spent in the payments of wages, interest, rent, etc.

Trade cycle is due to monetary causes.

According to Hawtrey, the behaviour of the merchants and the dealers is very sensitive to changes in the rate of interest. These dealers buy and sell large quantities of goods with borrowed money; and a slight lowering or raising of the rate of interest will induce them to borrow more or less from the banks and thus to increase or decrease their stock of goods. Thus when the rate of interest is lowered, the traders borrow more money and try to increase their stock. They give larger order for goods to the producer. The latter tries to increase his output and engages more labour, buys more raw materials, etc. The aggregate money incomes of the community increase; and so the consumer's outlay increases. This means increased demand for goods. The dealers now find that their stocks are being depleted. They give more orders to the producers. They in their turn, try to increase production. Money incomes and outlays increase. Prices begin to rise. The expectation of a further rise in prices induces dealers to increase their stocks. Again the same process is repeated, and prices rise in a crescendo.

The demand for loans rises, while the reserves of the banks are getting depleted owing to the internal drain of cash into circulation and the possible export of gold. The banks will be forced to raise interest rates, and refuse to grant additional credit. This causes the bubble to burst and the dealers hastening to reduce their stocks give fewer orders to producers; the latter curtail their productive activities, and unemployment ensues. During this period of depression, businessmen need less credit and deposit and reserves accumulate at the banks until they lower the rate of interest. The cycle starts again.

The remedy for the cycle is for banks so to regulate their volume of loans that prices will be stable.

That an expansion of business activity is sometimes caused by an expansion of credit cannot be denied. One of the conditions for the development of booms is that there should be an expansion of credit. But the latter is not the cause of the former. The trade cycles are mainly caused by non-monetary factors. The monetary influences make the boom possible and increase or decrease the amplitude of fluctuations of the business cycles. According to this theory, trade cycle would cease if prices are kept stable. The theorists do not deny that the impulses to the expansion or contraction of business activities may come from non-monetary factors, but if the banking system suitably regulates the volume of credit, expanding it when business activities show signs of depression, and contracting it when the latter are expanding, the fluctuations would become impossible. It is of course true that the trade cycle is a dance of the dollar, and that the fluctuations in prices and credit are the inevitable accompaniments of a cycle. So also "in modern mountaineering there is an almost perfect correlation between the possession of an ice-axe and the ascent of snow mountains. Practically nobody ever ascends a snow mountain who has not previously bought an axe....But this does not prove that if the purchase of ice-axes was prohibited by law, snow mountains would no longer be ascended."* So we cannot eliminate these fluctuations by keeping prices stable. The trade cycle, therefore, though it appears in a monetary garb, is not due to monetary causes alone.

Psychological Theory: According to this theory, upheld generally by Pigou, the dominant cause of these business cycles is the movement of business confidence. When business is brisk, people expect good profit and over-estimate the prospects of the future. They expand their productive activities. The confidence of one class of businessmen generates similar feelings in others, because "enthusiasm and despair are both catching." Thus the feelings of optimism and despair both tend to infect others. This optimism breeds errors, and production is generally carried on beyond the limits of profitable sale. When this fact becomes patent, the businessmen suffer losses; they at once grow pessimistic about the prospects of business and curtail their productive activities. Businessmen thus alternate between errors of optimism and errors of pessimism, and these set up wave-like movements in activities. The adherents of this theory do not deny that other factors, *e.g.*, harvest conditions, etc., may be at work, but these influence production by affecting business confidence.

This theory contains much truth. Business conditions are intimately influenced by business confidence. But it fails to explain why a boom starts, and why confidence revives. It is also inadequate

* Pigou. *Industrial Fluctuations*. P. 197.

to explain why optimism gives rise to pessimism. To account for these movements, it must take help of other factors. The value of the theory lies in the recognition that recovery from depression is not possible unless business confidence revives.

Recent Theories:* A large number of writers, including the Late Lord Keynes, have expressed the opinion that the essence of trade cycles is a variation in the volume of investment goods caused by changes in the marginal efficiency of capital (which has been defined by Keynes as the expected rate of return on the capital cost of a newly produced asset), or in the rates of interest. If we refer to our previous analysis about saving and investment, we can understand the part played by these two factors in determining the fluctuations in the volumes of money incomes, employment, etc. At the bottom of a depression, something happens to raise the marginal efficiency of capital, or to cause a fall in the rate of interest. The former may be due to the depletion of previously accumulated stocks below normal, or to the necessity of renewing worn-out capital-goods, or to the discovery of some new resources, or to new inventions. The fall in the rate of interest may be caused by increase in the quantity of money in the possession of banks; or it may be due to a weakening of the liquidity-preference which leads people to dishoard. Any one of these factors may initiate a revival of investment. The volume of employment increases as more and more resources are drawn into production for turning out investment goods (assuming the existence of idle resources which is a fact at the bottom of a depression). An increase in volume of employment of factors will lead to a rise in money incomes. In this way a burst in investment gives rise to a boom, and this boom lasts so long as the investment goods are being constructed. But sooner or later, the scope for new capital-goods declines as all the more remunerative openings for investment are being progressively utilised. Hence there is an inevitable tendency for the prospective yield on new capital-goods to fall. Moreover, further expansion in the volume of capital-goods increases their cost of production, either as wages, or prices of materials, etc. rise. Under the combined influence of these two factors, the marginal efficiency of capital collapses. If the rate of interest does not decline or declines insufficiently, the consequence must be a fall in the volume of investment. A proportionate fall in the rate of interest is unlikely. On the other hand, as the expanding income and expanding business raise the monetary requirements of the public, the banks find it difficult to meet this expanding demand by supplying increasing quantities of money. Interest rates must begin to rise. Thus the volume of investment follows a downward course. Decline in investment causes a fall in the volume of employment and monetary

* While mainly basing on Keynesian analysis, we have tried to avoid the intricacies of this theory.

incomes. And the economic system finds itself again in the throes of a depression.

According to Lord Keynes, there is, moreover, a chronic tendency towards a deficiency of demand or depression in a progressive economy. As a community grows richer, its propensity to consume declines. On the other hand, on account of the abundance of capital goods, the opportunities for new investment become less attractive. Faced with declining marginal efficiency of capital from both sides, new investment may fall off with all the attendant symptoms of depression.

Conclusion: In the present state of our economic knowledge, it is not possible to give a complete explanation of the causes of the trade cycles. The literature on the subject is highly controversial and is constantly growing. But the apparent disagreement among economists is not so great as it appears at first sight. The trade cycle is the result, not of one single factor, but of a multiplicity of factors, among which sometimes one and sometimes another becomes dominant.

Remedies: So disastrous are the effects of the trade cycle, especially in relation to the volume of unemployment, that there is no more important practical problem facing us to-day than the abolition of these fluctuations. But unfortunately, economists are not yet agreed as to the correct policy to be pursued. The remedy that is proposed depends obviously upon the diagnosis that has been made. Those economists who support the monetary explanation of the cycle pin their faith on curing it by means of control over the supply of money. In their opinion, the banking system can do much to decrease the amplitude

of the fluctuations of the trade cycle by manipulating the bank rates, or by engaging in open market operations. When businesses show undue signs of expansion, the Central Bank should put up the screw, increase the bank rate and sell securities in the market. Similarly, approaching periods of depression can be corrected by a lowering of the bank rate, purchase of securities, etc. In this way it is claimed that if the Central Bank is sufficiently bold and far-sighted, it can offset the wave-like movements of the trade cycle.

Those who subscribe to the underconsumption theory are not satisfied with mere manipulation of the bank rates and open market policy. In their opinion steps should be taken to stimulate the falling propensity to consume which is the root cause of depression. The tax system should be so devised as to secure a much more equal

distribution of incomes and remove the fundamental cause of the "oversaving" propensity. Mr. Hobson pleads for an adjustment of the wage rates in the upward direction during a boom. By increasing wages and reducing profits, it will stimulate consumption and slow down savings. By reducing profits, it would check the incentive of businessmen to borrow and of bankers to lend. So less

credit would be created. Prices would rise by a smaller percentage.

Other economists who consider these cycles to be caused by fluctuations in the volume of investment goods, plead for the adoption of measures to curb investment during booms and to stimulate it in a depression. In their opinion, monetary measures will only create the favourable environment for the successful carrying out of fundamental remedies. But they cannot eliminate the trade cycles. The best remedy is for the government to carry out a *contra-cyclical fiscal policy* in various directions. The

Contra-cyclical fiscal
policy.

public authorities should plan their public works programme in such a way that a greater amount would be spent in times of depression and less in times of booms. For example, more post offices, more roads, more railways and irrigation works should be constructed during periods of depression. This would relieve unemployment, increase incomes and stimulate consumption. Taxes should be reduced during depression, specially the taxes on business profits. This is likely to stimulate private investment. The budget should deliberately run into deficits to be financed by loans. During booms, public works programme should be curtailed; heavy taxes should be levied on business profits so as to check private investment; and the budget should show sufficient surplus which should then be utilised to eliminate the previous deficits as far as possible. These and other measures designed to stimulate consumption and private investment during depressions have been advocated to cure the trade cycles.

CHAPTER 43

UNEMPLOYMENT AND FULL EMPLOYMENT

One of the most important practical problems facing all industrial countries is the existence of unemployment among the population. In all such countries the supply of labour tends usually to be fixed in the short period. The demand for the services of labour is, however, variable on account of the changing consumer preferences. Hence maladjustments are bound to occur between the demand and supply of labour. The result will be unemployment.

It is first of all necessary to define term "unemployment". As commonly understood it does not refer to the unemployment among the leisured classes. It only refers to unemployment among wage-earning classes. But the latter may remain unemployed due to idleness. We do not regard such workers as unemployed. The unemployed are those persons who cannot obtain the work they desire at the existing rates of pay.

Unemployment has been classified by some writers in different ways. First, there is casual unemployment. In almost all industries, there are sudden fluctuations of activity. At one time activity is very brisk, and the employers require a large labour force to deal with rushes of work. At other times work is comparatively slack, when a part of the labour force becomes unemployed. This is specially the case with the dock-labourers. There is thus a floating surplus of the unemployed, called the "reserve of labour". Secondly, the seasonal occupations are characterised by the existence of unemployment. In some industries the workers get jobs only for a certain period of the year. Such is the case with the sugar industry in India where work is carried on from November to April or May. The workers remain idle during the intervening period. This is also the case with our agricultural labourers. Thirdly, unemployment may be caused by the cyclical fluctuations of the industry. The course of business shows a wave-like movement, consisting of alternating periods of booms and depressions. These trade cycles exercise great influence on the volume of unemployment which decreases when trade is good and increases when it is bad. Fourthly, some unemployment is also caused by the changes in the industrial structure which are constantly occurring. Modern businesses are essentially dynamic; new machineries and inventions are being adopted, throwing some workers out of employment for the time being. Demand is constantly shifting from one product to another, leaving behind it a trail of unemployment. This is known as "technological unemployment". Lastly, there is another type of unemployment due to the frictions to which the economic system is

subject. This may be caused by the seasonal fluctuations in demand or by loss of time between different jobs etc.

The causes of unemployment are extremely complex. We can only discuss a few of the main causes. Seasonal unemployment is due primarily to climatic and social factors.

Causes.

Weather or the course of nature brings variations in demand for labour between different months. Technological unemployment is due to the growth of new trades and the decline of old ones as in the case of the motor and horse transport. It may also be due to the rapid introduction of machines which replace manual labour as in the case of our hand-spinning and hand-weaving industries. Such unemployment may also be due to the adoption of plans of rationalisation etc. Greater mobility of labour will often cut short such periods of unemployment. But unfortunately mobility of labour is often absent in many occupations. Such absence of mobility is often a cause of unemployment. Cyclical unemployment is bound up with the causes which lie at the root of the recurring trade cycles. According to classical writers, unemployment was also due to the fact that the level of money wages was

Keynes' involuntary unemployment.

being maintained by trade union pressure at an artificially high level. If, in the face of falling prices, the wage-rates are kept rigid, a certain amount of unemployment is bound to ensue because at the high rate the employers may find it impossible to absorb the whole labour supply. This analysis has been objected to by Lord Keynes. According to him, people are unemployed because the current demand for goods and services is not sufficient to absorb all available labour into different occupations. Employment depends on the spending of the whole income of the people either on consumption or on investment. But as the level of money incomes increases in a community, people will tend to spend a smaller proportion of their incomes on immediate consumption. So there will be a deficiency of return to entrepreneurs who will therefore try to cut down the volume of employment they offer to the factors. This tendency may be counteracted if investment in capital goods expands sufficiently. But in a wealthy country, there will be comparatively few new opportunities for investment. Hence the necessary increase in the volume of investment may not be made with the result that a portion of labour force will be unable to find employment.*

Various remedies have been suggested from time to time to solve the problem of unemployment. The remedy for casual unemployment is "decasualization". The system of keeping

Remedies.

individual reserves should be terminated as far as possible, and all casual labour should be engaged from central sources. For this purpose, Labour or Employ-

* *General Theory of Employment, Interest and Money.*

ment Exchanges should be established. At these exchanges, a register is kept regarding the unemployed persons to whom jobs under different employers are allocated as these fall vacant. The employers notify all vacancies to the exchanges which try to find suitable men from among the registered workers. Seasonal unemployment is sought to be tackled by the method of dovetailing one seasonal trade with another. For example, the agricultural workers may adopt some cottage industries as subsidiary occupations. Moreover, the employers may be encouraged, where possible, to make goods to stock during the slack season, or they can accept advance orders. Measures which will increase the mobility of labour are bound to reduce the volume of unemployment. Provisions should be made for imparting technical training in other traders to workers who have lost their jobs due to a shift of demand from their industries. A most usually discussed method is large capital expenditure by the public authorities to stimulate the collective demand for labour. When unemployment is acute, the authorities should carry out large schemes of development, *e.g.*, construction of roads, parks, post offices, etc. This will relieve a considerable volume of unemployment.

In spite of everything that has been done, a number of men is bound to remain unemployed. The government of every advanced country has been forced to come to the support of these workers by adopting schemes of unemployment insurance. A central unemployment fund is created, consisting of contributions made by the workers, employers and the state. The workers paid contributions to this fund during periods of employment, and obtained "doles" when out of work.

Full Employment: Unemployment is both a social and economic evil. Hence all modern states have set before themselves the task of abolishing mass unemployment. In recent times, therefore, the maintenance of full employment is being increasingly regarded as the goal of all economic policy. It should be noted that the expression, "full employment" is not to be understood in its literal sense. It refers to the state in which involuntary unemployment is "being kept down so low as not to constitute any serious social problem." There will of course be a small number of men who will remain unemployed at any given moment,—persons changing over from one job to another, or persons who are waiting to be re-trained for a different occupation. The existence of this minimum of "frictional unemployment" is quite compatible with full employment as it is understood by the majority of writers. All that is necessary for the existence of full employment is that the men who become unemployed at any given moment should be able to find, without delay, new jobs at fair wages within their capacity.

According to the classical writers, in a freely competitive system, serious unemployment is a passing phase. Everyone whose labour is worth anything at all would be able, sooner or later, to get jobs suited to his capacity. If anybody remained unemployed for any considerable time, it only meant that he was demanding more wages than he was worth. There would of course be some amount of frictional unemployment as also unemployment due to the decay of some trades or areas. But the competitive economic system possessed sufficient elasticity whereby these men could be absorbed into different jobs in course of a reasonable period of time. The existence of prolonged unemployment can only be due to the fact that the workers are demanding too high wages. The unduly high rates of wages may be due to the pressure exerted by monopolistic trade unions. If such monopolistic practices are given up, competition will force wage-rates down to the level at which the unemployed workers can be absorbed into suitable jobs.

Modern economists no longer accept this view. It is now admitted that a reduction of money wages will not cause such increase in the

Causes of lapses from full employment. volume of employment as to abolish all unemployment. The late Lord Keynes has done

much to point out the deficiencies of the classical analysis and to suggest the methods by which the stage of full employment may be reached. According to him, the existence of unemployment is due to the fact that the demand for the services of labour is insufficient to absorb the available supply. Employment depends upon the expenditure of the community. Full employment depends upon the spending as income of the total production of a given period. The total income may be spent on consumption goods and on investment goods in a certain proportion. If some people decide to spend less on consumption, this deficiency in consumer expenditure must be made good by increased expenditure on investment goods. If this is not done, there will be a deficiency of demand as a result of which all the available labour cannot be absorbed into production. According to Keynes, the necessary increase in investment may not be forthcoming after a certain stage. And unless special steps are taken to stimulate investment and demand, unemployment will tend to become chronic in that community.

The road to full employment may be reached in any of the two ways. Since unemployment is caused by a deficiency of demand, we

Three ways to full employment. may strive to cure it by taking steps to stimulate consumption by various measures.

This is sought to be done by securing a re-distribution of income from richer classes with their low propensity to consume to the poorer classes with a high propensity to consume. This can be done by increasing the rates of direct taxes on the rich and reducing the indirect taxes on the poor, or by paying family allowances to the poor. But the main defect of this system of levying

very high rates of income tax is that it may depress private investment to an extent that may lead to smaller volumes of employment.

The generally accepted remedy is the stimulation of investment by various means. Investment may be of two types, private and public. Steps may be taken to stimulate the volume of private investment. Private investment declines on account of the fact that there takes place a fall in the expected rate of profit. In order to prevent the fall in the rate of private investment, the rate of interest should be reduced in pursuance of a cheap money policy. Or the rates of income tax may be reduced to such an extent that private investment may be stimulated to the degree necessary to establish full employment. But the main difficulty of this method is that the entrepreneurs may be in such a pessimistic mood that they may not respond even to considerable inducements. Hence this policy cannot be regarded as satisfactory, if pursued alone. But measures to stimulate private investment may be usefully adopted along with other measures to establish full employment.

Lastly, full employment can be reached by the government spending on public investment in a contra-cyclical direction. If the government

spends large sums of money on the construction of post offices, roads, and other public works during a depression, or provides subsidies to stimulate mass consumption in the shape of family allowances etc., this will increase effective demand directly, and lead to full employment. This expenditure should be financed by raising loans in such a way as not to compete with private investment. This has been called the method of "deficit spending". This method will bring about a fundamental change in the budgetary policy of the government. Uptill now, the governments have rigidly followed the policy of balancing their budgets while leaving the national economy in an unbalanced stage. On many occasions, such a balancing of the budget has been more nominal than real, and often during depressions, the attempt to balance the budget had to be given up on account of the impossibility of the task. But in future, this policy should be changed. The state assumes responsibility for maintaining total outlay at such a level as to establish and maintain full employment. During depressions, the attempt to balance the budgets should be deliberately given up. As private investment must have shrunk, and the outlay on consumption had fallen to such an extent as to cause severe depression, the state should fill in the gap, and spend more money either on the construction of suitable public works (plans of which should be previously laid down), or on stimulating mass consumption. The budget should be run into a deficit sufficient to provide adequate outlay for the maintenance of full employment. During booms, public expenditure should be cut down, while large revenues should be raised by raising the tax rates. The budget must show surpluses, which should

then be utilised to wipe off the accumulated deficits of the years of depression.

There is no doubt that if this bold policy is pursued and government expenditure on public investment and subsidies to mass consumption are maintained at a sufficiently high level, full employment can be easily established. This, however, presupposes perfect mobility of labour if all unemployed workers are to get jobs within a short period. But mobility of labour is not as perfect as is necessary to secure full employment. Hence it might be necessary to adopt two other subsidiary measures. First, the government should organise special measures for increasing the mobility of labour, by establishing labour exchanges, providing adequate re-training facilities etc. Secondly, the location of industries should be controlled by the state both to prevent overcrowding of population and to divert more industries to specially depressed areas. For, as Lord Beveridge pointed out, there is no sense in using the vast developments of transport in order to throw an increasing burden of travel on human beings rather than on goods.

Many objections have been raised against the pursuit of such a policy. The fundamental criticism is that this policy will lead to inflation. In such a stage of full employment, the bargaining power of trade unions will increase materially, and they may pursue a policy

of raising rates of money wages beyond the level warranted by productivity. Or in a backward economy, where existing equipment is insufficient to absorb available labour, deficit spending will not be followed by a proper expansion in the production of goods. As a result of these factors, there may take place a continuous increase in prices with disastrous effects on the economic system. The pressure of rising wages may, however, be tackled by a policy of price control, or the grant of subsidies to stabilise cost of living or the levy of higher income taxes. In a backward economy, it may be essential to retain in the hands of government, such measures of control as were used during the war-time. Another criticism points out the inherent dangers of a continuous pursuit of deficit spending. If businessmen expect the deficit spending to continue in large volumes, they may be affected by the fear of impaired credit or of inflation, or of burdensome taxes in the future. These are all retarding forces. Moreover, according to this policy, the government should take steps to check public investment once it is found that private investment is reviving sufficiently to take up the slack. But a popular government will not find it easy to taper public investment off promptly when the need for a stimulus decreases. While the expenditure lasts it is too tempting to those who could use them as political bribes. The combination of skill, integrity and backbone necessary for putting a check to the public works programme just at the right moment is extraordinarily difficult to find.

CHAPTER 44

MONETARY MANAGEMENT

External vs. Internal Stability: The pre-war gold standard was managed for the purpose of securing exchange stability. The exchange rates were kept stable within the narrow range of the gold points, and the internal price and cost structures were allowed to fluctuate. That such stability of exchange rates secured large benefits for the world is no longer doubted. It facilitated large-scale movements of goods from one country to another. It also fostered the growth in the volume of international investment. But critics have not been wanting who questioned the utility of stable-exchange rates.

These critics argue that exchange stability connotes only a very small thing. It only means the stability of the exchange rates, but not the stability of the foreign value of the local currency. It of course protects the foreign trader from the fluctuations in exchange rates. But it does not protect the producer for export, as it does not guarantee either the stability of the export prices, or stable relations between his costs and prices. The costs of the export producer will

Defects of a policy of external stability.

depend on domestic conditions, while the prices that he will get for his products will depend on the vagaries of the world price-level. "It is a narrow conception of foreign trade which looks merely to the interests of the middle man, and neglects those of the home producer." Moreover, stability of the exchange rates would communicate all sorts of disturbances occurring in the other countries to the domestic system. A political disturbance in the U. S. A. would at once communicate its economic effects to India. It is better, therefore, to follow a policy of internal stability of prices and let the exchanges "go hang".

But this is putting the dilemma in much too extreme a form. "To put the two as absolute alternatives is not merely an exaggeration; it is untrue."* Stability of exchange rates cannot be maintained for a long time if the internal economic conditions are allowed to fluctuate. That has been amply proved by the complete break-down of the gold standard in the thirties of this century. Similarly, stability in internal prices alone cannot be achieved successfully if exchange rates are allowed to fluctuate violently. Only a country which took no part in international trade and investment would be able to secure the one without the other. When a country is doing a fair share of the world trade, instability in exchange rates would mean an upsetting of the

* *The Future of Monetary Policy.* P. 116.

internal price-level, if only because the import prices form also a substantial part in the determination of the general price-level. Hence from a broad point of view, the two types of stability are dependent on each other. There is no doubt that the two policies may be in conflict with each other on particular occasions (*e.g.*, wars and revolutions, abnormal movements of short-term funds, etc.). It should be the aim of monetary policy to harmonise the two as far as possible. But excessive preoccupation with mere external stability should no longer be encouraged. More and more attention should be paid to the formulation of policies for securing some amount of stability in the internal price and cost structures.

Monetary Aims and Prices: Assuming therefore that our aim should be to manage the internal price-structures, the next question that arises is,—*how do we want prices to behave?* Let us for the moment leave aside the rather awkward question, can we really manage the prices. Supposing we can do that, shall we try to have stable prices, or rising prices or falling prices?

Marshall, writing in the latter part of the 19th century, showed a preference for a falling price-level. Periods of rising prices contain within themselves seeds of future disasters. Wild oats are sown during those periods, whose fruits the economic system had to garner painfully during the succeeding periods of depression. With falling prices, though the businessmen get less, the wage-earners get more. In these ways, he argued the case in favour of falling prices. But the prevailing opinion during the pre-1914 days was in favour of any of these two courses,—a gently rising price-level and a stable price-level with a majority for the latter.

A gently rising price-level: The case in favour of a gently rising price-level rests on the fact that it acts as a great incentive to enterprise. When prices rise the expenses of the businessmen do not rise as much as prices. It is well-known that wages are usually very sticky, and follow prices haltingly. Hence during such periods, businessmen can make large profits. Prospects of such profits will stimulate them to an increased production of goods. Thus rising prices

would secure a fuller employment of the workers than could otherwise be obtained.

Advantages. "Is it not rising prices that empty the work-houses and the employment exchange registers, and fill the factories and the shipyards? And is it not better that all should be busy, even though grumbling at the cost of living, than that some should be living cheaply and others left on the streets?"* Moreover, according to Robertson, the industrial advancement in the 19th century has been made possible because of the stimulus given by rising prices. Periods of rising prices cause the wealth of the community to increase faster than would otherwise be the case.

* Robertson, *Money*, P. 139.

There is of course much truth in this view. But we must also set on the other side the difficulties of such a policy. The arguments in favour of this policy rest on the questionable assumption that businessmen require an extra incentive to carry on their functions energetically. Supposing there is stability of

Defects.

prices, that does not mean that businessmen would have no adequate stimulus. The usual ups and downs of individual industries will often provide an adequate stimulus. Moreover, such a policy would also mean that the inefficient businessmen would survive and succeed in the competitive struggle because of the profits received from rising prices. Pressure upon businessmen would be lacking to induce them to exercise their abilities to the utmost. There is also the danger that the prospects of large profits will lead to over-expansion in the making of capital-goods and to a speculative boom. If this happens, and is likely to happen, then we must be prepared for the inevitable depression. It is doubtful whether the balance of advantages lies on the side of the rising prices when we take into consideration the serious loss of wealth and of employment resulting from the depression. Lastly, there is that uncomfortable question of social justice. Periods of rising prices lower the real value of the money incomes of the wage-earners, and the investing classes. Is it desirable that they should be continually robbed of their honest efforts in order to put the businessmen on their mettle?

A Stable Price-level: The case in favour of a stable price-level is very popular among the economists. In the first place, such a policy is extremely simple and very easy to grasp. In recent times, we have so much experience of the evil of instability of prices that to point out the benefits of stable prices seems to be superfluous. *Secondly*, it has been argued that such a policy can be supported on broadest grounds. Money is a measure of value, and

Advantages.

like all measures, should be stable in value. Just as we consider it as self-evident that a pound, being the measure of weight, should always contain the same weight, so money should also measure the same value. *Thirdly*, it is pointed out that trade cycles have always been accompanied by large fluctuations in prices. Whatever the causes of the trade cycle—monetary or non-monetary, it seems overwhelmingly probable that stability of prices would do away with the more extreme fluctuations in business activity. *Lastly*, such a policy would ensure justice between debtors and creditors, and between the wage-earners and the employers.

It has sometimes been said in criticism of this policy that a stable price-level would not provide sufficient incentive to the businessmen. But stability of prices does not imply absolute quiescence. There would still be the ups and downs of individual industries. Moreover, it does not mean absolute stability of prices. We must allow for a

margin of tolerance in the movements of prices. Small changes on either side of the index number will of course occur. All these would provide sufficient stimulus to the businessmen.

In spite of the simplicity of such a policy, there are several difficulties in the way of price-stabilisation. There are many price-levels, the retail price-level, the wholesale price-level, etc. If we are to stabilise the value of money, we should keep the retail prices stable. But this is not possible. We do not possess complete data for constructing a satisfactory index number of retail prices. There is also the difficulty

that the quality of the commodities going under the same name changes constantly at different dates; and that new commodities are appearing and old ones dropping out.

Owing to these difficulties, it has been suggested to stabilise a wholesale price index. Such an index number, to be practicable, would consist of a selected list of goods. As such, it would be exposed to a real danger. Suppose sixty commodities are selected, and their prices are kept stable. The prices of other commodities will be allowed to fluctuate. Investment in the selected commodities would be comparatively safe, as there would be little risks of price-instability; but investment in the other goods will not be so safe. Hence the tendency will be for investment to increase in the selected goods, and to decrease in the production of other goods. The direction of investment may thus be warped. The stability of such an index is thus no guarantee of real economic stability. A more fundamental criticism is that a policy of stable prices would not guarantee the absence of inflation or deflation. In a community where large technical advances are being made, prices should fall *pari passu*, with the increase in productivity. But if the prices are kept stable, this would give rise to abnormal profits, leading to over-capitalization and collapse. This actually happened in the U. S. A., in the pre-1929 years. The Federal Reserve Board kept the prices more or less stable during this period. But productivity was increasing rapidly in America. The result was abnormal profits, leading to the stock exchange boom and then the collapse. Conversely, "prices may remain stable, and instead of a price-fall there may be a piling up of goods in warehouses, or reduction in output. It is theoretically conceivable that there might be severe depression during which prices remain stable but in which all the consequences of a price-fall are reproduced in their strongest forms."* Thus stable prices would ensure neither stability of employment, nor of consumption.

"Neutral" Money: In view of the defects of stable prices, it has been proposed recently by Mr. Hayek that the ideal monetary policy is that which interferes as little as possible with the operation of non-monetary forces. Suppose there is no money, and the barter

* *The Future of Monetary Policy.* P. 58.

system prevails. Under such a barter system, ratios of exchange would be established between the different goods. The aim of monetary policy is to see that same ratios of exchange prevail even under money. The introduction of money should not "distort" the situation that should have obtained under barter. Money, in other words, should be neutral in its effects on prices.

This could be secured, according to Mr. Hayek, not by stability of prices, but by stability in the quantity of money in circulation. If the supply of effective money is kept constant, then there can be no distortion of the 'real' ratios of exchange through changes in the quantity of money. The price-level would then vary inversely with productive power. If the efficiency of the productive system increases as a result of the technical inventions, or the discovery of new supplies of natural resources, it will lower the cost of production per unit of output. If the quantity of money is kept constant, prices would also fall, and there would not be any inflation of the profit margin. If, however, the productivity falls as a result of the destruction of wealth due to wars, etc., then prices would rise. Changes in population would also lead to changes in prices: an increase in population leading to a fall in prices and *vice versa*. It should be noted that under this policy, the quantity of money would not be kept constant under all circumstances. It only means that the quantity of "effective" money should be kept fixed. The quantity of money would thus be increased when the velocity of circulation of money falls; or when vertical disintegration takes place, i.e., the number of stages in the processes of production increases.*

There is much to be said in favour of a price-level varying inversely with productive power. It would mean that the creditors and the investing classes would automatically receive a share in the fruits of progress in the form of falling prices. Moreover, the wage-earners would then secure higher real wages 'without having recourse to perpetual demands for a rise in money wages,—demands which, whether or not they involve actual stoppages of work, certainly tend to embitter human relations and to devour the energies of constructive leadership.'†

But such a policy will be faced with most serious practical difficulties. In order to keep the effective supply of money constant, it will be necessary to change the quantity of money as its velocity of circulation is altered, or as the extent of integration of businesses is changed. But how is the Central Bank to know when and in what degree the velocity of circulation, or the extent of integration or disintegration of the firms has changed? These practical difficulties are almost an

* Hayek. *Prices and Production*. P. 124.

† Robertson. *Money*. P. 136.

insurmountable barrier to the successful carrying out of such a policy.

Another fundamental difficulty arises when we consider the case of increasing productivity. Under such a policy, prices would fall as cost reductions are effected. This pre-supposes competitive conditions free from artificial monopoly prices. If some prices are monopoly-controlled, and are prevented from falling, then other prices must fall by greater degree in order that average prices should correspond to the average costs. These other industries would then be subjected to a prolonged period of depression. It is essential that the prices of all factors must fall in the same proportion as the prices of goods. But to assume that wages, rent, or interest could be freely adjusted to changes in prices, that there are no problem of fixed interest rates, no wage regulations, would be to assume away all the difficulties in the situation. And if the economic system is so highly flexible, any monetary policy would be as good as another.

In view of these conflicting opinions it is very difficult to determine which is the proper monetary policy. But there is unanimity at least on one point:—efforts should be made to avoid, as far as possible, the abnormal fluctuations in business activity. And so far as monetary activity alone can control the economic system, the aim should perhaps be some stability of prices with suitable adjustments when necessary, if any large changes in productivity take place.

CHAPTER 45

THE PROBLEM OF THE STANDARD

Much literature is growing on the question of a suitable monetary standard for a country. Current opinion can be divided into two groups:—advocates of managed gold standard and those of paper currency standard. On the one side, there are those who want the world to return to some form of revised and revamped gold standard. Against this is ranged a large body of equally distinguished men, who would refuse to bow to the gold myth, and would straightaway adhere to paper currency standard. It is necessary therefore to consider the relative suitability of the various standards that have been proposed. We shall discuss some of the important standards that have been proposed.

(A) **Compensated Dollar:** Though anticipated in the writings of earlier writers, this plan is intimately associated with the name of Prof. Fisher. Under the usual gold standard, the amount of gold in the coin remains the same while the value of gold fluctuates. But under this plan, the value of gold will remain stable, but the gold

Fisher plan. content of the coin will vary. Suppose the price-level rises a little, that shows that the quantity of currency is larger than is necessary. The Government would then increase the gold content of the coin, so that for the same amount of bullion, less coins can be had. The result will be a decrease in the volume of coins, and the prices will fall. Similarly, when the price-level shows symptoms of falling, the gold content of the coin will be lowered, so that ultimately the amount of gold coins increases and prices rise. He advocated the use of a wholesale index-number as a guide to the variations in the weight of the coin. That is the essence of his plan. In practice, gold coins will be withdrawn from circulation and replaced by gold certificates. And according as the wholesale index-number rises or falls, the government would decrease or increase the selling or the buying price of gold.

The plan has great theoretical merits. It is as automatic as the gold standard. It makes allowance for the people's preference for some form of gold standard and is in that respect superior to the schemes for paper currency standard. Wisely and persistently followed, it would do away with the fluctuations in the long-period price-level. But it is doubtful whether the plan will be successful in stabilising the short-period cyclical fluctuations of prices. Moreover, when the index-

Criticism. number has already registered a rise or a fall, it will alter the buying and selling price of gold. Thus it seeks to remedy a past rise or fall in prices, but not to prevent a future rise or fall. Its greatest defect is that there will be no fixed gold par in foreign exchange. The actual rate of exchange will fluctuate in accordance with changes in the

weights of coins, and will therefore become uncertain, and this would affect the foreign trade of the country. The defects of the plan are therefore serious. But in spite of them, it has great possibilities. If gold in some form has to be retained in the currency system, why should we not try this plan? The rates of exchange would of course fluctuate, but the fluctuations under normal circumstances will be confined within narrow limits. And a highly developed forward exchange market would go a great way towards insuring the merchants against the exchange risks.

(B) **Paper Currency Standard:** Now that the gold standard has been suspended in most of the countries, the question naturally arises whether it is desirable at all to return to gold in view of its erratic behaviour in recent times. Should it not be better if we go in for a policy of price-stabilisation under a paper currency standard and do away with the pranks of gold? Under gold standard, we have

Arguments for a paper standard. never secured stability of prices and there is no chance that we should secure it some day.

The working of the gold standard presupposes a flexible economic system. But since our economic system have become rigid, it will again be impossible to work the gold standard satisfactorily. If we could raise or lower our wage-rates as we could do with the tariff-rates, or prices, we should of course go back to gold. But that is not possible. Moreover, in view of the fact that the world's output of gold is diminishing, the gold prices will fall and prolong depression. It is better therefore to remain on paper standard and try to keep the internal prices stable.

The arguments possess great attractiveness, especially after our recent experiences with gold. But on a calm consideration, it will be seen that the disadvantages of the paper system are more formidable than they appear at first sight. The advocates of the system forget the fact that gold standard like democracy itself is taken for granted as one of the essential things of national life. The suspension of the gold standard during the thirties only led to the public's hoarding of gold. So long as this preference for gold remains, some sort of gold trappings must be kept with our standard. Apart from this sentimental reason, there are certain inherent defects of a paper standard.

Arguments against a paper standard. Such a standard offers no security against inflation. Memories of the war-time inflation are so recent that it would be difficult to

inspire public confidence in the plan of a permanent paper standard. And without public confidence, it would not be possible to work the plan satisfactorily. *Secondly*, it would mean fluctuating rates of exchange. The intention is to stabilise the internal prices and to let the exchange rates fluctuate in accordance with trade conditions. This would introduce great uncertainties in foreign trade, and hinder the free flow of international investment. Stoppage of the flow of international investment is one of the most important causes of the last

depression, and since the way out cannot be easily found without a revival of international investment, the adoption of the paper standards would only aggravate the situation. "The main need of the world-to-day... is more confidence. There can be no surer route to the re-establishment of confidence than the stabilisation of exchanges."* *Thirdly*, it would be impossible to maintain financial stability under such conditions. If, owing to some movements of the exchanges, a currency is under-valued, this will upset the balance of indebtedness of other countries. In defence the latter would introduce tariff walls, exchange restrictions, etc. The device of competitive depreciation of the exchanges would be adopted by some countries in the vain hope of capturing export markets, and this would destroy price stability in other countries. That these events are real will at once be patent if we study the condition of the world to-day.

(C) Return to Gold: "It is not justifiable to compare the working of a universal paper standard under ideal conditions, with the working of the gold standard under un-ideal conditions."† Gold standard has its defects, but the defects of the paper currency are no less serious. Moreover, the causes which led to the break-down of the gold standard would be no less disastrous to a paper standard. The arguments in favour of a well-managed gold standard have been

strengthened rather than weakened by the events of the last few years. "The claim for the gold standard... is not that the gold standard as it must operate in the present world of central banks and political tension, involves no dangers and difficulties, but rather that the dangers to which it is exposed and the difficulties to which it gives rise, given reasonable prudence on the part of those who manage it, are much less than the dangers and difficulties of any other practicable system."‡

Return to gold is therefore still the best policy. The great advantage of such action will be the restoration of confidence and good-will. But the decision to return to gold does not solve all problems. It is necessary that the causes which led to the suspension of gold standard should first of all be removed. Under the panicky conditions of 1929-34, no standard could be properly worked. *First*,

it is therefore necessary to find solutions of the major outstanding political problems of the present world. Restoration of financial confidence would be impossible of attainment in a world of political tension. *Secondly*, some settlement must be made regarding the war-debts and reparations. Until the question is finally settled, it will

*L. Robbins. "Paper System". Article in the *Gold*. (Times Publishing Co.), p. 46.

†Gregory. *Gold Standard and its Future*.

‡Robbins. "Paper System." Article in the *Gold*, pp. 45-6.

act as an insuperable barrier to economic reconstruction and would exercise disturbing effects on financial, economic and currency stability. *Thirdly*, there must be greater freedom of international trade. Every effort should be made to reduce the excessive tariff walls and to remove the various exchange restrictions. The freedom in the foreign exchange markets is essential to the resumption of the normal flow of international credit and without the revival of foreign lending, it would be difficult to get out of the present depression.

It is not possible to enter into the details of the scheme of restoration. Above all, there is a supreme necessity for the maintenance of close co-operation between the Central Banks with a view to checking the undue fluctuations in the purchasing power of gold. The prospect of the successful working of the gold standard in the future will depend on the degree of such co-operation. The future of the gold standard depends on the future of international co-operation.

International Currency Proposals: We already know that all the countries of the world were either forced off the gold standard, or gave it up in self-defence during the great depression. There ensued a period of unstable exchange rates, high tariffs, quotas and depreciating currency. The volume of international trade began to shrink continuously. It was soon recognised that in the post-war period, the reconstruction of the devastated countries cannot proceed smoothly if the trade between the nations is not freed from its present shackles. This cannot take place unless the rates of exchange between the different countries are kept stable. But a return to the gold standard of the pre-war variety with its rigid exchange rates was considered inadvisable. That standard was too narrow for the effective functioning of a relatively inelastic economic system. The new system must therefore secure to each country a large degree of autonomy in the management and regulation of its economic life. As the prospects of the end of the war drew nearer, it was felt that the problem of international monetary reorganisation must be tackled first of all. The question was discussed for more than a year by the experts of the U. S. A. and the U. K. At first each of the two countries put forth for discussion two different Currency Plans,—the Keynes Plan and the White Plan. As a result of further discussions between the experts, another scheme was evolved, and a Conference of the representatives of the United Nations was held at Bretton Woods in the U. S. A. in July, 1944. These proposals were approved at the conference with some modifications, and had been submitted to the different governments for ratification.

The Bretton Woods monetary agreement falls into two parts. The first deals with the provisions relating to the International Monetary Fund. The second concerns the International Bank for Reconstruction. The International Monetary Fund will be set up by those members of the United Nations who ratify the agreement.

International Monetary Fund.

It cannot be put into operation unless the governments, contributing 65 per cent. of the total quota, ratify the agreement. It is to be ratified by the end of December, 1945. The total resources of the Fund will amount to 8800 million dollars, to be subscribed by the member countries. The quota of each member has been fixed in the agreement. The U. S. A. will contribute 2750 million dollars; Great Britain, 1300 million dollars; the U. S. S. R. 1200 million dollars; China 550 million dollars; France 450 million dollars and India's share will be 400 million dollars. Each member shall pay in gold, as a minimum, either 25 per cent. of its quota, or 10 per cent. of its net official holding of gold and dollars, whichever is less. The balance of its quota is to be paid in its own currency. The Fund will be managed in the following way. There will be a Board of Governors where each member will have one representative. This Board will decide larger questions of policy. The real authority will be vested in the Executive Committee, consisting of 12 members, of whom five will be selected by the U. S. A., U. S. S. R., U. K., China and France. The other American republics will elect two Directors. Five Directors will be elected by all other countries. The election is to take place according to the system of proportional representation, each member having 250 votes plus one additional vote for each part of its quota equivalent to 1,00,000 dollars. The Executive Committee will appoint the Managing Director who will be the chief of the operating staff. The principal office will be in the U. S. A.

The resources of the Fund are to be utilised to promote exchange stability, to maintain exchange arrangements among the members, to avoid competitive exchange depreciation, and to eliminate foreign exchange restrictions which hamper the growth of world trade. The

Functions.

The main purposes to be followed by the Fund are to assist in the establishment of the multilateral system of payments in respect of current transactions, and to facilitate the expansion and balanced growth of international trade. The Fund is not meant to be concerned with the international indebtedness arising out of the last war, nor with the relief or reconstruction operations. Its main function will be to promote exchange stability, and to facilitate the settlement of international accounts. The following provisions have been made to secure exchange stability. At the time of adhering to the agreement, each member shall determine the par value of its currency either in terms of gold or of the U. S. A. dollar. The par of exchange is to be that prevailing on the sixtieth day before the date of the first operation of the Fund. Each member shall conduct all exchange transactions on the basis of this par value. To that extent, the agreement will promote exchange stability. But unlike the gold standard, this par of exchange can be altered when circumstances necessitate such a step. The plan provides machinery for changing the par value of a currency. Each member can change the par value of its currency by 10 p.c. after, con-

sulting the authorities of the Fund. The latter will have no right to raise any objection. If this change does not

Flexible rates of ex- change. remedy the situation, the member may then

propose further changes in its rates of exchange to the authorities of the Fund. The latter may either concur, or object, but it must declare its opinion within 72 hours, if the proposed alteration does not exceed 10 p.c. of the initial par value. Further changes can be made with the permission of the Fund which must concur "if it is satisfied that the change is necessary to correct a fundamental disequilibrium." Thus the provisions of the Fund will guarantee reasonable stability of exchange rates, while providing a suitable machinery for bringing about orderly and agreed changes in the rate when the fundamental economic conditions undergo a change.

Another important function of the Fund will be to promote the settlement of international accounts. A country may be faced with an

The Fund and the debtor country. unfavourable balance of accounts, and it may find it difficult to secure the currency of the

creditor country to settle its balance. Faced with such a situation, the country may be forced to restrict foreign exchange dealings, and to control its foreign trade. To solve this difficulty, the following provisions have been made. The member will have the right to buy from the Fund the requisite foreign currency of the creditor country in exchange of its own currency, to meet the deficit in the balance of accounts. There are of course certain conditions. First, the member cannot purchase foreign currency from the Fund beyond 25 per cent. of its quota within a period of 12 months. Secondly, the aggregate of such purchases cannot exceed 125 p.c. of its quota. These limitations may be relaxed in extreme cases. Thus these provisions will enable a debtor country to tide over temporary disequilibrium in its balance of accounts. But in order to discourage frequent recourse to the Fund for this purpose, and to discourage continuing unbalanced accounts, there is a provision for the levy of a scale of fees by the Fund on a member country if the Fund's holding of its currency exceeds its quota. In order to avoid the payment of these fees, the country concerned will have to take necessary measures to check the growth of its debit balance beyond a certain size.

The Fund will therefore help a country to meet a temporary deficit in the balance of international accounts by selling the requisite

foreign currency to it. But the Fund may not possess such a currency in sufficient

quantities. This may ensue in the case of a creditor country like the U. S. A., which may go on piling up abnormally large surplus balances on current account. The authorities of the Fund may then take steps to borrow that currency from that country, or from any other source (of course with the permission of that country); or they may require that country to sell its currency to them in exchange for gold. Should these steps prove insufficient,

they may issue a report, setting forth the causes of scarcity of such a currency, and submit recommendations designed to bring it to an end. They may make provisions for rationing supplies of the scarce currency, and permit the other members to impose restrictions on payments in the currency. These steps may induce the creditor country to be more reasonable, and to make its currency available to others.

These are the permanent provision of the Fund. Certain arrangements have also been made to cover the transition period which may last from 3 to 5 years. During the transition period, a member country may be allowed to retain exchange restrictions, or discriminatory currency arrangements, etc. After the transition period is over, such restrictions are to be given up.

The International Monetary Fund plan has thus been designed to give a reasonable degree of stability to the exchange rates without

The role of gold in the plan.

making the parity absolutely rigid. To that extent it is an improvement upon the pre-war gold standard. What place has been allotted to gold in the proposals? Though the Fund is not like gold standard, gold still retains a prominent place in the scheme. The proposals are not designed to supplant gold altogether. The quota of each member is to be subscribed in gold to the extent of 25 per cent, or 10 p.c. of its net holding of gold and dollar. The initial parity is to be expressed in terms of gold as a common denominator, or in terms of the U. S. dollar. Thirdly, when the Fund is unable to secure sufficient quantities of a scarce currency it may buy it by the offer of gold. Thus the status of gold as the ultimate means of international payments is clearly recognised by this provision, and similar other provisions. Thus gold still occupies a predominant position, though it is no longer the King, and has been robbed of all powers of mischief. Though the rates of exchange are to be expressed in terms of gold, such rates are flexible, and can be altered from time to time. By creating a pool of national currencies, the Fund will provide a good substitute for gold for settling the ordinary balances between nations.

The second part provides for the establishment of the International Bank for Reconstruction and Development. The need for such a Bank

The proposed International Bank.

arose from the fact that almost all the countries have been ravaged by the war, and will require large quantities of capital for reconstruction and development. It is therefore essential that capital should flow from the rich countries to the capital-poor countries. It is clear that only the U. S. A. will be in a position to supply the needed capital. But the American investor has incurred so much loss in the inter-war years on its foreign investments that he may not be willing to invest any more in foreign lands. The proposed Bank is expected to solve this difficulty. The Bank's chief function will be to guarantee loans made by private investors. It will not itself grant loans; it will only

guarantee a lender against the risks of default. Thus the Bank will make it possible for a foreign country to borrow at reasonable rates of interest. The authorised capital of the Bank will be 10,000 million dollars, divided into 1,00,000 shares to be subscribed by the members. Twenty per cent. of the subscription shall be paid, or subject to call as needed by the Bank for its operation. The remaining 80 per cent. will be called up as needed. Two per cent. of the subscriptions shall be payable in gold or U. S. dollars. The objectives of Bank are to provide capital for the economic reconstruction of the countries; to strengthen their monetary and credit structures by redistributing the world gold supply, etc. The business of the Bank will be concluded exclusively with governments or their agencies. All loans that the bank guarantees must fulfill the following conditions; the payment of interest and principal must be guaranteed by the government of the borrowing member country; the bank must be compensated for the risk it assumes, etc.

The Bank will make possible a resumption of international lending on sufficient scales to meet the needs of reconstruction. It can play a vital role in the right conditions. Its success will depend on the readiness of the creditor countries, chiefly the U. S. A. to accept payment of the service on their loans in goods or services.

CHAPTER 46

THE NATURE OF PUBLIC FINANCE

The Nature of Public Finance: Public Finance is that branch of Economics which deals with the income and expenditure of public authorities. It studies the income and expenditure of all public bodies which are parts of the governmental organisation of the country.

Public Finance is a branch of Economics. Like economics, it deals with man as a member of a society. Like all other branches of economic study, the aim of this part of the science is maximisation of economic welfare with the minimum of cost. That public finance is an important part of economic study was recognised long ago. Indeed, the term 'political economy' in its original sense indicates the art of managing the income and expenditure of the city-state in such a manner as to make both ends meet.

Public and Private Finance Compared: In broad outline, the principles which govern private and public finance are more or less similar. But there are also important differences. The most fundamental difference that is usually stated is that while in the case of individuals, their expenditure is determined by their income, the public authorities adjust their income to their expenditure. Thus the individual cuts his coat according to his cloth; the state first decides the size of the coat, and then sets about gathering the necessary cloth. But this is putting the difference in much too an extreme form. There are occasions when the individual tries to adjust his income to his expenditure. He may decide to marry, and may put forth increased efforts to earn a larger income in order to meet the increased expenditure of a married life. Similarly, the government has, like an individual, to adjust its expenditure to income. During depressions, when the revenues fall off, the government has to retrench its expenditure so as to keep it within the limits of its possible revenue. Thus the difference should not be exaggerated. But it remains true that there is some difference. It will be more apparent when we consider the ways in which an individual tries to balance his budget. If it became absolutely essential for an individual to incur additional expenditure in a year, he might meet it in two ways:—by trying to earn extra sums of money, or by borrowing from others. The public authorities will also adopt any or perhaps both of these two methods. But here a difference arises. The government may borrow from outsiders (*i.e.*, from a different country); or from itself (*i.e.*, from its own members), or it may print more paper notes. But an individual can only borrow from outsiders. He cannot borrow from himself, nor can he make his own I. O. U.'s legal tender.

There is another difference between private and public expenditure. Ordinarily, an individual will distribute his income on the different items of expenditure in such a way as to obtain equal marginal utilities from each. Of course this is seldom done in a perfect way. The ideal for public expenditure should also be the same. But in case of the state, this ideal is seldom realised in practice. Owing to the existence of sentiment, or special interests, the government is often forced to spend money for worthless purposes. This tendency is very strong in young democracies, or where communal and racial feelings are high. But one point must be noted in favour of public expenditure. In strict theory, the individual is assumed to distribute his income on present or future needs in such a way as to get equi-marginal utilities from both. But people discount the future at a high rate, and make inadequate provision for the future. The state, however, does not discount the future at such a rate, and makes, (or shall we say—should make) better provision for the future than the individuals.

Another important distinction lies in the fact that for the individual, it is desirable that he should strive to keep his expenditure within the limits of his income. But for the state an increase of expenditure may frequently increase the total national income, and improve the fiscal position of the state. The effects of state expenditure on production, employment and income are not similar to those of private expenditure. The success or failure of the fiscal policy of the state is to be determined by noting the effect of public expenditure upon the aggregate national income and employment.

Classification of Public Finance: The science of public finance may be broadly classified into four heads: *viz.*, (a) Public Expenditure, (b) Public Income, (c) Debts, and (d) Financial Administration.

Of utmost importance in public finance is the subject of public income or taxation. Public expenditure was generally neglected; but now-a-days proper attention is paid to the subject. Public Debt is treated under a separate head; because it gives rise to a number of separate problems. Still, strictly speaking it is included both within public income and public expenditure. The income from public debts falls within the scope of public income, while the payment made on account of public debts falls within the scope of expenditure. Financial administration, though a branch of the subject, is not considered in this book, because there are few generalisations which apply to the subject.

The Aim of Public Finance or the Doctrine of Maximum Social Advantage: Not long ago it was the accepted rule that the best way to deal with the problems of public finance was to lay down this golden rule that the government should tax and spend as little as possible. This idea derived its justification from two strands of thought. One was the pervading spirit of individualism. Just as the best of all government was regarded to be *zero* government, so the best public finance was zero revenue and expenditure. The government was to

interfere as little as possible with the liberty as well as the purse of the individual. Another idea was that the government spent money mainly for unproductive purposes, while the individuals spent it for productive purposes. Hence in the words of Gladstone, money should be left to fructify in the pockets of the individuals.

But it is a wrong principle which would cut public expenditure to the bone. Taxes are not necessarily evil things. There are many taxes which perform socially justifiable functions. A tax on alcohol checks consumption of liquors and thus does some positive good. A tax on imports which leads to the successful development of a home industry adds to the national dividend. Moreover, it is quite possible that the government would spend money for better purposes than the individual. The latter would have spent the money on (say) the race-course, while the government would spend it on the education of the poor. Public expenditure often increases the productive efficiency of the country. This does not mean that all public expenditure is a positive good. There are some writers who go to this extreme, and advocate an indiscriminate extension of the public expenditure. This is also not good. There are many taxes which do positive harm to the national income of the country. A highly steeped income tax and death duty, for example, would check savings and curtail production. Similarly, all public expenditure is not good. Expenditure on unnecessary wars, for example, is clearly a waste.

The correct principle is that the government should conduct its finances in such a way as to secure the maximum social advantage. By taxation or by incurring debts, a government obtains its revenue and by a series of expenditure this income is gradually disbursed. Thus there is a continual transfer of wealth from one set of persons to another and 'changes take place in the amount and in the nature of wealth which is produced.' If the transfers and changes, on the whole, bring about maximum social advantages, they are justified.

In considering whether the maximum social advantage is secured in a community or not, the following points should be taken into consideration. *First of all*, the character and composition of public expenditure should be considered. Some expenditure may be heavy, but if they are of the nature of capital investments the ultimate welfare may out-weigh the present burden. Other expenditures may not be heavy but may be quite unremunerative. If such expenditure, however, is incurred for preserving the community from external attacks and internal disorder, it is strictly justified from the standpoint of total welfare, though not from the point of economic welfare. *Secondly*, the nature and methods of the taxing system employed are important. The same amount of revenue may be obtained through different methods of taxation, yet the burden of taxation under one method may be lighter than that under other methods. *Thirdly*, the ultimate effect of taxation on the productive powers of the community is important. If

the tax system reacts on the will to save and on the power to save unfavourably, then clearly such a system is unjustifiable.

It is now being increasingly recognised in recent times that public finance should be managed in such a way as to establish and maintain full employment in the community. The rates of taxes and of public expenditure should be so fixed, at different levels of economic activity, that these will stimulate both public and private investment as well as mass consumption and so provide an effective demand sufficient to absorb all available labour into employment. The state should also undertake measures for securing a re-distribution of incomes from the richer to the poorer classes.

CHAPTER 47

PUBLIC EXPENDITURE

Classification of Public Expenditure: There is no agreement among economists as regards the classification of public expenditure. In fact every writer has presented his own classification.

The first classification is between national and local expenditure when we consider a unitary state; and federal, state and local expenditure when a federation is considered. Those expenditures which are best undertaken by a central organisation, *e.g.*, defence, administration of law and justice, etc., are classified as national; while local expenditure concerns those which affect and benefit a locality in question, *e.g.*, water-supply, lighting arrangement, etc. In a federal state, the distinction between federal expenditure and state expenditure turns upon the relative importance attached to the federating units or to the federation. Those expenditures which concern all states, *e.g.*, national defence, posts and telegraphs, central administration, diplomatic services, etc., are classified in every federation as federal expenditures; while those expenditures which concern a particular state, *e.g.*, police, education, jails, etc., are grouped within state expenditure. Of course, there is no clear line of demarcation between local and national as regards certain expenditures, *e.g.*, education, maintenance of roads, which are grouped within local as well as national expenditure. Yet the distinction is vital from the point of view of administration and taxation.

Accepting the suggestion of Cohn, Plehn gives a classification, the basis of which is the degree of benefit conferred by the expenditure upon the citizen. He groups expenditures under four heads. First, those expenditures which confer a common benefit on all citizens, *e.g.*, defence, general administration, roads, etc.; second, those which

Plehn's classification. confer a special benefit on certain classes that is treated as common benefit because of the incapacity of these classes, *e.g.*, poor relief and old age pension; third, those which confer both a special benefit on certain persons and a common benefit on all others, *e.g.*, administration of justice; fourth, those which confer only a special benefit on individuals, *e.g.*, publicly owned industries. But the distinction between common and special benefit is not a stable one. The same service may shift from one side of the line to the other as social evolution proceeds.

Dalton suggests a classification between public expenditures which are designed to preserve the social life of the community against violent attack, internal and external, and those expenditures which improve the quality of that social life. Here

Dalton's classification. also the difficulty is that except certain expenditures, others may fall within one class or the other. There is no clear line of demarcation between those expenditures

which maintain order and social life and those which bring about progress.

Expenditure may be either productive or unproductive. But the main question as regards such classification is, what is the criterion of productiveness? If we take profit as the criterion of productiveness, then obviously many expenditures would be regarded as unproductive, though the amount of social benefit conferred by such services may be very great. There are many irrigation works in India which are run at a loss. These have been constructed mainly to provide safeguards against the occurrence of famines. Hence we cannot classify this expenditure as unproductive. The best criterion of productiveness

of expenditure seems to be one given by Robinson.* According to her, 'any state expenditure which directly or indirectly develops the natural or human resources of the nation or leads to their more economical use may be expected to increase national prosperity by increasing the national wealth, and may thus be expected ultimately to pay for itself—given the important qualification that the gain due to increased expenditure is not less than the loss caused by heavier taxation.' Thus investments in transports or communication, or expenditures incurred on education, public health, and administration of factory legislation are all productive in the long run. According to this criterion much of the expenditure on war and on armaments during times of peace are unproductive as they are not meant for the creation of further wealth, but for its destruction.

Another way of classification of the public expenditure as given by Dalton is between *grants* and *purchase prices*. Any expenditure by the state for which an equivalent return or *quid pro quo* is obtained is a purchase price; and if there is no such return, the expenditure is a grant. Payments for the services of

Grants and Purchase state employees, soldiers and also of private prices. contractors are purchase prices; on the other hand, payments of old age pensions, poor relief, etc. are grants. Grants may consist of money or of services such as free education, free medical treatment, etc.

Effect of Expenditure on Production: There is a considerable body of public opinion which considers that every expenditure incurred by the government is unproductive. This opinion seems to ignore some facts of vital importance; *first*, that much governmental expenditure is mere transference of wealth from one set of persons to another, *e.g.*, payments of interests on government debts, old age pensions, etc.; and *secondly*, much expenditure on education and public health directly increases the efficiency of the people. Further, there are some expenditures by the state which increases the wealth-producing capacity of the country as a whole. Railways, posts and

*Robinson. *Public Finance*. P. 7.

telegraphs belong to this category. These can be maintained and managed by the state most economically. Lastly, there are some items of expenditure which can be incurred by the state, but not by private companies. Railways in a sparsely populated community would not be paying to a private company, though they might lead ultimately to an enormous increase of prosperity to the country. Expenditure on such undertakings can be incurred only by the state.

As regards the effect of expenditure upon *ability to work and save*, it may safely be laid down that it increases such ability. Much expenditure by the state which is meant for fostering the youth, whether through education, or through the supply of cheap housing, cheap living, free tiffin during school hours, ample supply of leisure during young days for the development of the body and mind, adds to the productive efficiency of the people as a whole. But no such unqualified judgment can be passed as regards the effect of expenditure upon willingness to work and save. When workers are assured of a certain pension in their old age, their desire to save may decrease. But if a grant is conditional upon the happening of a certain contingency, as for instance, financial help during illness, it will not reduce the desire to work and save. If bounties could be arranged which would increase in amount with an increase in the efforts of the person, then it would increase the desire to work. Dalton concludes that 'on balance however, slight check to production is probable as a result of the expectation of grants.'

Lastly, as regards effects on diversions of economic resources as between different employments and localities due to public expenditure, no final judgment can be passed. Increased public expenditure, in all those directions is desirable, where the distribution of community's resources between different employments will be such as to establish full employment. Much diversion of the resources of the community

Effect of diversions of economic resources.	to unprofitable investments and unprofitable localities takes place due to the ignorance of the above law. Expenditure on war industries falls in this class of unproductive expenditure. Similar is the case with protective bounties on industries for which the country possesses no natural advantage. But here a note of warning should be made. All expenditures are not to be judged on economic considerations alone; there may be other considerations equally or more important.
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Effect of Public Expenditure on Distribution: In many places of our treatise it has been argued that a less degree of inequality than that existing at present is desirable from the point of maximum satisfaction. The question is how far public expenditure reduces this inequality. Two broad divisions as regards expenditure may be made, *viz.*, expenditure which benefits individuals, and expenditure which benefits the society at large.

As regards the first class of expenditure there are many items which involve a direct transfer of wealth to the poor. Taxing of incomes at progressive rates and paying old age pensions to the poor mean such a direct transfer. Direct transfers of money are however rare. The more usual method of transfer is by the provision of free goods and services to the poorer classes, *e.g.*, free medical service, free education, etc. Here also the effect is the same, the poor gain at the cost of the rich. Inequality declines and total satisfaction increases.

Expenditures which benefit all members of the country in a locality, as for instance good roads, or free water supply to a town, affect the distribution of wealth no doubt, but it is very difficult to trace its effects and to allocate its incidence upon different persons.

But the great drawback of attempting a redistribution of wealth by public expenditure is that it may reduce saving, *first*, of those who are taxed, and *secondly*, of those who receive the benefits of such expenditure. If there is a reduction of saving there will be less to distribute in the future. As regards the effects of expenditure the Colwyn Committee held, "its effect on production seems to be in conflict with that on distribution. But up to a certain point this is not the case. The difficulty is to know where the balance should be struck.*" The principle of maximum social advantage should be kept in view and all expenditure should be judged from that standpoint.

* Colwyn Committee Report. P. 105.

CHAPTER 48

SOURCES OF PUBLIC INCOME

Sources of Public Income: The revenue of a government may be derived from taxes and from sources other than taxation. These non-tax sources may be further classified as follows:—(a) fees, (b) prices, (c) special assessments, and (d) fines and penalties. Some revenue may be derived from voluntary gifts, but these are negligible.

A *tax* is a compulsory contribution levied on the wealth of an individual by the government of a country without reference to any benefit. A tax is therefore a compulsory payment, and as we shall see, herein it differs from price. The second feature is that the tax must be paid whether the individual derives any special benefit or not. "The essence of a tax, as distinguished from other charges by the government, is the absence of a direct *quid pro quo* between the taxpayer and the public authority." A rich person cannot claim that he would not pay taxes to support the public schools because he has no children. A tax is paid for the general or common benefits conferred by the government on all tax-payers. There is no question that the taxes should only be paid in proportion to the benefit enjoyed by the taxpayer.

A *fee* is a payment levied by the government in respect of services performed for the benefit of the individuals. The services are usually undertaken for the purpose of control and regulation. It differs from a tax in that it is a payment made for a special benefit enjoyed by the payer, whereas a tax is paid for common benefits. The amount of the fee should be equal to the cost of rendering the service. That is, the payment made is usually proportional to the special benefit. In actual practice, fees exceed the cost of service.

A "*price*" means the revenues derived by the government from the sale of services and goods. The government sometimes conducts many businesses like an ordinary businessman, and the revenue derived from the sale of such commercial concerns is regarded as price. The government sells timber from its forests, salt from its factories. A price, unlike a tax, is not a compulsory payment. If I do not buy post cards, or do not travel in railways, I am not obliged to pay anything to the government. Those who do not avail themselves of these goods and services escape payment. The price is also paid in return for some special benefit enjoyed. The service for which a fee is paid is considered more important for the public than that for which a 'price' is paid. The element of public purpose is more prominent in the case of fees than in the case of prices.

'*Special Assessment*' is a payment made by the owners of real property in respect of any improvement made to their property by the public authority. When the Improvement Trust opens out a park in a locality, the owners of adjoining sites are benefited by the improvement as the value of lands rises. If the Trust levies taxes on these owners determined with reference to the benefit enjoyed by the owners, *i.e.*, increase in land values, it will be "a special assessment". The payment is made for, and in proportion to the special benefit. Here it must be noted that the improvement must be in pursuance of a public purpose.

It is not always easy to make clear-cut distinction between these different sources of public income. Fees and price are often found indistinguishable from taxes. Whenever the government levies fees at rates higher than the cost of providing the services, the levy pertakes the character of taxes. The court fees have been utilised in India to some extent for the purpose of taxing succession to property. In case of a public enterprise, the government may exercise its monopoly power in such a way as to raise the price much above what would have been charged under competitive conditions. The French government utilised its monopoly over tobacco production in such a way as to contribute substantially to the treasury. In these cases, prices charged by the state partake of the character of taxes. Hence it has been rightly said that taxes, fees and price shade into each other.

CHAPTER 49

PRINCIPLES OF TAXATION

Adam Smith's Canons of Taxation: Adam Smith, the father of modern Political Economy, laid down certain principles regarding taxation, and any book on Economics would be incomplete without enumerating and examining them.

(1) *Principle of Ability or Equality.*—"The subjects of every state ought to contribute towards the support of the government as nearly as possible in proportion to their respective abilities; that is, in proportion to the revenue which they respectively enjoy under the protection of the state."

By this canon Adam Smith implied that the criterion of payment of taxes should be that the ability to pay, or the sacrifice involved by the taxation, would be equal for every body. Obviously a rich man is able to pay taxes in a higher ratio than his poorer brethren. Hence the system of taxation should be progressive. But there is no unanimity among economists as regards the interpretation of this canon. Some maintain that Adam Smith implied that the tax system should be progressive and they quote approvingly Adam Smith in another part of his *Wealth of Nations* where he considered it to be "not very unreasonable that the rich should contribute to the public expense not only in proportion to the revenues, but something more than in proportion." But others would lay stress on the word 'proportion' used by him in the original canon.

(2) *Principle of Certainty.*—"The tax which each individual is bound to pay ought to be certain and not arbitrary. The time of payment the quantity to be paid ought all to be clear and plain to the contributor and to every other person."

The man paying the tax should know the exact amount which he is to pay during the year so that he may adjust his expenditure to his income after the payment of taxes.

The state also ought to be certain about the amount of tax it is going to obtain, so that its budget may be balanced.

(3) *Principle of Convenience.*—"Every tax ought to be levied at the time or in the manner in which it is most likely to be convenient for the contributor to pay it."

This is a rule of obvious importance. If it is violated there will be unnecessary hardship on the part of the tax-payer. Hence the tax on agricultural land should be collected after the harvesting time.

(4) *Principle of Economy.*—"Every tax ought to be so contrived as both to take out and to keep out of the pockets of the people as

little as possible over and above what it brings into the public treasury of the State."

This canon, according to Adam Smith, means that the cost of collection should be kept as low as possible. The cost of collection should be minimum consistent with administrative efficiency. If the major portion of a particular tax is consumed in collecting the tax, there cannot be any justification for it. On this ground taxing of incomes below a particular sum is not attempted in all countries.

An Examination of Canons: First of all, a distinction should be made between the first canon and the rest of the three. The first canon is concerned with the principle of taxation, while the others are concerned with mere administrative rules of taxation.

As regards the principle of equality or ability, it may be pointed out that the canon is vague and ambiguous. It is not based on any one distinct principle. It is based partly on ethical and partly on economic considerations. It is ethical because it refers to justice in taxation; it is economic because it is based on the economic capacity of the tax-payer, *i.e.*, the revenue which he enjoys under the protection of the state. The canon is vague because there is no fixed standard by which to measure ability. It still remains to be decided whether property, revenue or net revenue is the measure of ability. Further, ability has sometimes been construed to mean equality of sacrifice. But this introduces complications. In accepting this meaning, we pass from an objective standard to a subjective or psychological standard. Again the principle is ambiguous because it does not definitely lay down whether the principle of proportion or progression is to be accepted.

The principles of *certainty* and *convenience*, though fundamentally sound, are of comparatively little importance now-a-days. Any tax system is not worthy of the name, if these principles are overlooked; yet these principles pale into insignificance in comparison with other principles which Adam Smith could have included, but which he did not. *Productivity* and *elasticity* of the tax system are of higher importance than these two.

Lastly, the canon of economy is given a wider significance now-a-days than that given by Adam Smith. Adam Smith mainly meant by 'economy' that the cost of collection should be very low. A tax system might be economical from the point of collection, but it may have a disastrous effect from the standpoint of national economy as a whole. A very steeply graduated income tax would satisfy this canon as it could be collected with a very small expenditure of money. But it would not be economical from the broader national standpoint as its ultimate effect will be a shrinkage of the national dividend. A tax system should be economical not only from the standpoint of the present, but it should be so contrived that it may prove economical even in the future. In other words, the tax should be equitable as not to press too heavily on the rich, as thereby the growth of capital is

arrested. Thus the principle of economy is ultimately bound up with the principle of equity in taxation (more of this later in the chapter).

Two more canons, *viz.*, productivity and elasticity formulated by later writers should be considered in this connection. Taxes should be productive. The foremost consideration of a practical financier is

Productivity.

to get sufficient funds for the state. He naturally judges of the merits of a tax by the amount of its yield. Therefore that kind

of tax is the best which ensures an automatic increase of revenue with the increase in the number of population and its incomes. A tax on commodities fulfils this requirement. As population increases, more commodities are consumed and the tax yields larger and larger revenues. Another important principle of the tax system is that it should be *elastic*. The tax should increase or decrease according to the needs of the state and according to the length of the tax-payers' purse. Otherwise it would cause hardship to

Elasticity.

the people. Elasticity is indeed no new principle, but a combination of the canons of

productivity and economy. Flexibility is a highly desirable quality of a tax system and no practical financier can overlook its importance in the selection of taxes.

Principles of Taxation

Many theories have been put forward to guide the way in which the state should raise its revenue from the citizens. In this section, we shall examine the more important of these theories one by one.

(a) **Benefit Theory:** According to this theory, the tax should be proportional to the benefit enjoyed by each individual under the protection of the state. The more benefit an individual enjoys from the activities of the government, the more taxes he should pay towards meeting the expenses of conducting these activities. There are some services which afford special benefit to individuals and others which confer general benefit on all. Cohn based his classification of public expenditure on this broad division. The benefit theory of taxation follows from an extremely individualistic notion of state functions.

But this theory is clearly inadequate as a principle of taxation. A tax, we know, is a payment made for the common benefits rendered by the state. The benefit to each individual cannot be measured separately. For example, how can we measure the benefit that we receive from the army and the police? Or from a sound judicial system? The amount of tax that we pay bears no relation to the benefit that we enjoy; if it did, it would cease to be a tax. Moreover, according to this theory, the poor should pay more tax than the rich, for they enjoy more benefits from governmental activities than the latter. Clearly, this is absurd. But this theory may be justified from one standpoint, *viz.*, 'if the relation to the state of citizens *en masse* rather than the individual tax-payer be considered, there is a sense in which

the aggregate of taxes represents payment for the aggregate of collective benefits rendered by the state.*

(b) The cost of service principle: More individualistic in outlook is the cost of service principle. This theory states that taxes are levied for meeting the actual costs undergone for rendering services by the state. This principle can of course be applied in determining postal rates and railway rates where railways are state-owned and in some other cases where specific services are rendered. But with regard to the major portion of the taxes, the theory is clearly inadequate. The cost of services rendered to all subjects in common cannot be apportioned to each individual as it is not capable of determination. Further, under this principle, the receiver of old-age pensions should return not only the pension but also some part of the charge of the cost of administration of the scheme. This is clearly absurd. Hence the theory has been abandoned long ago.

(c) The "ability to pay" theory: According to this theory, everybody should pay taxes to meet the expenses of the state in accordance with his ability to pay. Government is a common enterprise carried on for the good of all. Therefore all should support it upto the limit of their capacities.

That this theory conforms to our ideas of justice is clear. The trouble comes with the definition of "ability to pay". What measures the ability of an individual? Previously, it was thought that the ownership of *property* was a good measure of ability. Those who possessed more property should pay more.

Test of ability to pay. But soon it came to be seen that property was not a good test of ability. For there were found many people who possessed a large income, but had no property. A man might earn a large income by means of his labour; he might spend lavishly without amassing any property. A surgeon, for example, may earn a very large income by dint of his skill, but he may not possess any property worth the name. His ability to pay was large, but he would escape taxation. Later, it was asserted that *expenditure* was a better test of ability. Those who spend more can, it was assumed, afford to pay more taxes. So a tax on personal expenditures would, it was thought, satisfy the principle of ability. But because a man had to spend more did not mean that he had a greater capacity to pay taxes. A person with more dependants would have to spend more money than another who had no dependants. Clearly, the ability to pay of the first individual is less than that of the latter. But according to this interpretation, the first man would be called on to pay higher taxes. This is not justifiable. At last, the idea gained ground that the *income* earned by an individual was the best index of ability. Hence in modern tax systems, efforts are made to impose greater burdens on the higher income-holders.

*Lutz. *Public Finance*. P. 295.

Even then money income is not a completely satisfactory test of ability. Two persons might have the same money income; yet the ability to pay taxes might be different. They may have different obligations. One may be a bachelor, while the other might have to provide for a large family. The attempt to tax them at equal rates is not justifiable. The first individual's income may be derived from property; while that of the second may be the result of his labour. The latter, having no property, will have to save a portion of his income to provide for the future, which the former need not do. Their ability to pay is thus different. Stamp says that in order to find the true criterion of ability, we have to take the following into consideration, besides, of course, the money income of the individuals. *First*, the period of time during which the income was earned. It is the usual practice in all countries to levy the income tax on incomes earned during the previous year. That is, income earned during 1946 is taxed during 1947. But in 1947, the businessman may run into heavy losses, and it will be difficult for him to pay income tax on last year's profits. Hence in order to conform to the principle of ability, incomes should be taxed currently during the period in which they are earned. This is the basis of the argument in favour of "Pay-as-you-earn" system of income taxation. *Secondly*, from the income we should exclude the depreciation charge for the replacement of capital. *Thirdly*, whether the income was derived from property, or from personal efforts; income from property or unearned incomes should be taxed at a higher rate than the labour incomes or earned incomes. *Fourthly*, the size of the family; an individual having a large family should be asked to pay less than another with no or a smaller family. *Lastly*, whether the income contains any surplus or not. All these are recognised in modern income tax laws.

Another interpretation of "ability" runs on the lines of sacrifice. It assumes that the payment of taxes inflicts a sacrifice on the taxpayer. The sacrifice is the satisfaction that must be given up through the payment of taxes. Two schemes of distributing the sacrifice have been formulated,—the principle of equality of sacrifice, and the principle of minimum or least aggregate sacrifice. The *Principle of Equality of Sacrifice* states that the taxes should be so imposed that the sacrifice made by each tax-payer should be the same. This principle, therefore, makes for the progressive system of taxation. But the main difficulty of this principle is that it is not possible to calculate the subjective loss undergone by a given individual on account of the payment of the taxes.

According to the *Principle of Least Aggregate Sacrifice*, the tax system should be so arranged that the total sacrifice undergone by the tax-payers might be the least. The aim of all tax systems is how to secure the maximum social advantage. That is best achieved if the total sacrifice of the society is the least. This is the

justification of this principle. It is based on the *marginal utility* theory. According to that theory, the larger the income, the less is the utility of money. Hence the utility yielded by the last slice of income of those whose income is the highest is the least. If these only are taxed, then the sacrifice undergone is the *minimum*. The state is therefore to go on taxing the tops of the largest incomes until its needs are fulfilled. Thus according to this principle, everyone need not pay tax. But the chief obstacle to the successful carrying out of the plan is that it would ultimately retard saving and diminish people's will to work. If incomes above a certain *maximum* are taxed away, people would not exert themselves to earn those incomes. Hence taxation would gradually fall upon lower and lower incomes. The future capital of the country would diminish and with it the national dividend. Hence in order to achieve the least aggregate sacrifice, the state should distribute the burden of taxation in such a way as not to press too heavily on the rich and to compel them to discontinue from working and saving, and should take into consideration the present and the future interests of the country as a whole.

Principles of Proportion and Progression in taxation: The next question that arises is, given the right principle of taxation, what method should we adopt in distributing the burden of taxes? It should be noted in this connection that a tax may be *proportional*, *progressive*, *regressive* or *degressive*. Each of these terms requires definition. A *proportional* tax is that which takes away exactly the same percentage of the value of the income or property in taxes, whatever the amount of income. A 10 per cent. tax on income, whatever may be the total income, is an instance of this tax. A *progressive* tax is that which takes away a larger and larger percentage of the value of the income or of the property in taxes as the income or the property increases in amount. If the tax is 10 per cent. on those whose incomes is not more than Rs. 5,000; 15 per cent. on those having not less than Rs. 10,000; 22 per cent. on those having Rs. 15,000, it is progressive. A *regressive* tax is just the reverse of a progressive tax. Here the rate of tax diminishes as income increases. A *degressive* tax is that which increases with the increase of income, but the rate of increase of tax diminishes with every increase in the income tax. In actual practice, we are concerned with *proportional* and *progressive* systems of taxation.

According to the principle of proportion, therefore, the tax-payers, whatever their income, are to pay a fixed percentage of their income as taxes. In his first canon of taxation, Adam

Principle of Proportional taxation. Smith advocated that taxes should be *proportional* to one's income, although in one portion of his writing, he was in favour of "something more than in proportion". The basis of this principle is that it is not the purpose of taxation to disturb the existing distribution of wealth. If each

pays in a fixed proportion, the relations between the different incomes are undisturbed. The merit of this system is that it is extremely simple. As Say puts it, "proportional taxation does not need definition; it is the rule of three."

But simplicity is not the only objective in finance. It must also satisfy some equitable principle. As everybody knows, to take Rs. 100 from an individual whose annual income is Rs. 1,000 and Rs. 1,000 from another whose income is Rs. 10,000 may appear simple, but it is unjust. The ability to pay increases more than in proportion as the money income increases.

Progressive taxation: Due to the defects of the system of proportional taxation, the principle of progression was gradually adopted in modern tax systems. The main justification for the progressive system of taxation is that as a person's income goes up, his ability to pay increases at a higher ratio than his income. Hence the

rate of taxes should not be proportional, but progressive. *Secondly*, the principle of equality of sacrifice also leads to progression. As income increases, the marginal utility of money decreases. So to take Rs. 5 from a man having Rs. 100 and Rs. 50 from another with Rs. 1,000 does not impose equal sacrifice on them. The poorer man makes greater sacrifice than the second person. In order to bring about an equality of sacrifice, the man having the higher income must pay taxes at a higher rate. The principle of least aggregate sacrifice leads to greater progression. A *third* argument is that the existing distribution of wealth is inequitable, and the state should try to lessen inequality of incomes by means of higher taxation of the rich. There are very few economists who deny the necessity of lessening the present inequality of incomes, and taxation is a good weapon for effecting this. Of course, it is true that this remedy is only a palliative, and does not go to the root of the problem, yet this is no reason why it should not be adopted. Moreover, higher taxation of the richer classes is also advocated on another ground. The rich have usually a very low propensity to consume. Hence as a community grows richer, the propensity to consume tends to decline, as a result of which there takes place a deficiency of effective demand for goods and services. In other words, demand becomes insufficient to absorb the available labour force into employment. The remedy for this state of chronic unemployment is higher taxation of the rich so as to increase the propensity to consume. *Lastly*, it is argued that the modern state is an organic whole. "The highest rule of behaviour for the individual in his ordinary social relation is that the strong should aid the weak. It is surely equitable that the broadest shoulders should bear the heaviest burden."

The main difficulty of the theory is that even if it is granted that utility of money diminishes as income increases, there is no method of determining the rate at which this decline takes place. There is no

means of knowing the actual rate of progression which would impose equal sacrifice. The rate of graduation is bound to be arbitrary.

Single vs. Multiple Tax System: There has been a constant tendency towards the simplification of the tax system. It has been argued by various persons that the tax should be levied on some single item according to some principle of equity. The Physiocrats advocated a single tax on the economic rent of land, because they thought that it was on rent that ultimately all burden of taxation fell. The advocates of the single tax system hope to effect a redistribution of the world's wealth by their method of taxation.

Henry George's scheme for a single tax on land was advocated with the same object. His idea was that a tax on rent did not check industry. In this conclusion he was obviously right. But the defect of his theory is that such a tax would exempt all persons who do not invest their incomes in land. A rich millionaire would be thus exempted while a poor man owning a house would have to pay taxes.

Another proposal for a single tax is that of taxing the incomes only. Of course it is a better taxable object than the former. But it is also defective. *First*, the tax on small incomes is difficult to collect and in the long run uneconomical; *secondly*, it may check saving; *thirdly*, it leaves out some sources, such as windfalls which are highly desirable objects.

The desire of the advocates of the single tax system is to secure a single and inexpensive form of taxation. The cost of collection would be diminished and the incidence would be exactly known. But some general criticism can be advanced against any theory of single tax system. (a) Any single tax which may seem fair and equitable from a theoretical study may be inequitable as regards incidence as between different individuals. The anomalies under a single tax system may be corrected by a multiplicity of taxes. (b) The needs of revenue in a modern state are so large that it is very difficult to devise a single tax system which can satisfy its needs. (c) The use of a single tax should not secure the advantage that is at present obtained by reaching the different taxable capacities; *viz.*, income, consumption, inheritance, etc. (d) Lastly, evasion may be easy under this system, but it will not be so easy when there is a system of checks and counterchecks under a multiple tax system.

The defects of the previous system and actual practice have led to the opposed doctrine of Arthur Young. "If I were to define a good tax system, it should be that of bearing lightly on an infinite number of points, heavily on none." This extreme view is neither theoretically justified nor adopted in practice. Taxes on all commodities, on transfer of goods, and on different forms of production would be extremely prejudicial to the development of industry and

inconvenient to payers and very costly in 'collection'. The customs of England before 1845 were very complicated; the reforms of Huskisson simplified them a good deal.

The best method then seems to be neither a single tax system nor a multiple tax system, but a mean between the two, that may be called

a system of 'plural' taxation following Bastable. The best method is the plural tax system. It is best to rely on some big taxes which fall generally on the rich and a few others which

fall more or less on every person of the community. Income tax, inheritance tax, tax on luxuries would serve the first purpose. Taxes on commodities of wide consumption would reach all classes of people.

Characteristics of a good tax system: From the above discussions, we are now in a position to sum up the characteristics of a good tax system. *First*, the tax system as a whole should satisfy the canons of taxation as already laid down. *Secondly*, as regards the distribution of the burden of taxation the incidence of not only the general tax system but also the individual taxes should be carefully considered. Those taxes are to be preferred which entail the least aggregate sacrifice on the community and satisfy the canon of economy from the standpoint of production and distribution in the present as well as in the future. The burden of taxes should not be too heavy on any one point, but should rather be determined according to the ability of the tax-payer. *Lastly*, the system of plural taxation is to be preferred to the systems of single and multiple taxes. As these have been already discussed, we need not repeat them any more.

Taxable Capacity: The taxable capacity of a community has been variously defined. The more usual definition is that it is the surplus that remains after deducting from the national income the amount necessary for maintaining the capital of the country and efficiency of the people unimpaired. The definition is of course vague and gives rise to many difficulties. How are we to determine the allowances for maintaining capital intact and for safeguarding the peoples' efficiency? In normal times, we must not only make suitable allowance for the depreciation and wear and tear of capital, but allow for a certain rate in the growth of that capital, so that the national income may gradually rise. On what basis are we to make allowance for this? The concept is therefore beset with many pitfalls. It is purely relative, depending on a variety of factors, tangible and intangible, some of which it is difficult to measure satisfactorily.

On what factors therefore does taxable capacity depend? *First*, it depends on the psychology of the people. There may be times, especially during war, when people may be willing to undergo greater sacrifices than at other periods. Taxable capacity therefore increases during such periods. During the last financial

Factors on which tax-capacity depends.

crisis, the British people became more willing to help the efforts of the national cabinet to cope with the budgetary difficulties, and the spectacle of the

long queues of people, waiting to pay their taxes showed that the taxable capacity of the people had for the time increased. *Secondly*, taxable capacity depends on the distribution of the national income within the country. When Rs. 20,000 are owned by one individual, his taxable capacity is greater than that of twenty others who own Rs. 1,000 each. The more unequal the income, the greater is the taxable capacity. *Thirdly*, it depends on the size of the population relative to the national income. If the latter increases in a greater ratio than the former, the income per head increases, and so also taxable capacity. *Fourthly*, it depends on the general character of the country's industrial organisation. If it makes a greater demand for capital equipment, greater allowance must be made on that account from the national income. Taxable capacity at any particular time will be less. On the other hand the national income of such a country will also be higher, and taxable capacity will rise. *Fifthly*, it depends on the standard of living of the people because that will determine their efficiency, ability and willingness to work. *Sixthly*, it depends on the character of the tax system. Taxable capacity will increase if a greater reliance is placed on direct taxes. A greater revenue could be earned through direct than through indirect taxes without injuring the productive activities of the nation. *Lastly*, taxable capacity depends on the nature of the government expenditure. If the revenue is spent on education, sanitation, etc., the taxable capacity will ultimately increase. Whereas if the revenue is spent on building competitive armaments, the taxable capacity is thereby diminished.

CHAPTER 50

SHIFTING AND INCIDENCE OF TAXES

Meaning of shifting and incidence: When a tax is imposed upon a person, he will try to pass it on to the shoulders of others. This process of transferring the money burden of the tax is known as shifting. Shifting ends in incidence. The incidence of a tax is the direct money burden of the tax; and the problem of incidence is to find out the person on whom the money burden of the tax falls; out of whose pocket does the money come which is received by the government? Or in whose pocket would the money have remained if the tax was not levied by the government? This is the problem of incidence. The *impact* of tax is upon the individual who first pays the tax to the government. He will try to *shift* the burden to the shoulders of others. The *incidence* of the tax is upon the person who bears the ultimate money burden of the tax.

A tax also imposes other burdens upon the individuals. 'It is necessary, therefore, to distinguish between money burden and real burden, and between direct and indirect burden. The direct money burden is measured by the amount of money paid to the treasury in taxes. The direct real burden is determined by the amount of sacrifice of economic well-being undergone by the tax-payer. This is the *effect* of a tax. There may be indirect money and real burdens of a tax. The seller of a commodity upon which a tax has been levied has first to pay the tax. He can, of course, get back the whole amount of the tax from the buyers by charging higher prices. But this generally takes time, and to that extent the seller loses interest on the amount paid as taxes. This is the indirect money burden of the tax. Similarly, the indirect real burden is the indirect effect of the tax. When the price of a commodity is raised by a tax, the buyers would be forced to purchase less of it. This means a sacrifice of well-being. This is the indirect real burden of the tax. In the problem of shifting, three factors are of importance, *viz.*, the direction of shifting, the form of shifting, and the measure of shifting. As regards the direction of shifting, the shifting may be either forward or backward. If the importer has to pay a tax, he will try to shift it forward on to the consumers; if he fails in that he will try to shift it back to the producers. As regards the form of shifting, the shifting may be made either by charging high prices, or the prices may remain the same, while the quality of the commodity deteriorates. The measure of shifting depends upon many factors, which we shall shortly discuss, but here it may be safely laid down that sometimes the whole tax may be shifted to the consumers or producers, while at other times the incidence may be shared between the producer, the businessman and the consumer.

Direct and Indirect taxes: The distinction between direct and indirect taxes turns upon the question of impact and incidence. A tax is a direct one when the impact and the incidence are on the same person. That is, the person from whom the tax is collected is also the person who bears the ultimate money burden. He cannot shift the burden to others. An income tax is a direct tax. It is levied on the person who earns the income and is ultimately borne by him. Where the impact and the incidence of a tax are on different persons, it is said to be an indirect tax. Here some person first pays the tax, but he is able to shift the burden to the shoulder of others. A tax on a commodity is an indirect tax. Though the seller first pays it, it is expected that he will pass it on to consumers in the form of higher prices. The distinction between two taxes is not always so clear cut. Sometimes, the seller or the importer may be unable to shift the burden to buyers; he may have to bear the ultimate money burden.

Merits of Direct taxes: The advantage of a direct tax is that it is progressive in character. It can be so graduated that the heavier burden falls on the rich, and persons whose incomes fall below a certain level may be exempted from the tax. Thus it satisfies the first and foremost principle of taxation, *vis.*, equity or ability to pay. A second advantage of a direct tax is that it is *economical*. The cost of collection is very low and no wastage is incurred. A third advantage is that it satisfies the canon of *certainly*. The tax-payer knows how much he is to pay and the state may also be assured of a steady and certain income. Fourthly, the direct

Advantages of Direct taxes: taxes are *elastic*. They can be easily adjusted to meet the needs of the state. The yield of the tax can be increased or decreased simply by changing the rate of graduation. Fifthly, the direct tax is highly productive. With the increase in population and wealth of the country, the yield of the direct taxes automatically increases. Lastly, by the payment of the direct taxes, the citizen is made to feel the burden of the tax. He understands his responsibility to the state. His civic consciousness is roused and he takes a direct interest in the affairs of the state and particularly in the management of the finance.

As to the *disadvantages of the direct tax*, the first is that it is very inconvenient from the standpoint of the tax-payer. He has to supply detailed accounts and compile the forms. Further, the payment is to be made in lump sums at intervals. A person gets his income by dribbles, but has got to pay taxes in lump sums. This may cause much inconvenience. Secondly, direct tax is

Disadvantages of Direct taxes: a tax on honesty. If a false account is submitted, the burden of tax may be very light. Under such circumstances, the temptation to avoid the tax by submitting false accounts is too much with many persons. Thirdly, the graduation in any direct tax is bound to be arbitrary and according to the whims of the tax-levying authorities.

Taking the balance of advantages and disadvantages, we may safely conclude that the direct taxes are on the whole equitable, economical, elastic and productive.

Merits of Indirect taxes: The first and foremost argument in favour of an indirect tax is that it is a means of reaching the poorer classes on whom it is difficult to levy direct taxes. It is argued that every person should contribute something towards the maintenance of the state. But this is a matter of opinion. The second argument for maintaining an indirect tax is that it makes the basis of revenue fairly broad. Heavy taxation at any one point may have disastrous effect on the social and political order. The use of some indirect taxation is valuable because it enables increased revenue to be raised at different points instead of by exclusive concentration on direct taxes. Thirdly, indirect taxes are very convenient. The

Advantages of indirect taxes. payments are made in dribblets with every purchase of a commodity. As we never purchase too much of a commodity at one time, the burden is seldom felt to be very heavy. Fourthly, it is hardly possible to evade the tax. Of course, there are sometimes sales of smuggled articles, but they are exceptions which prove the rule. Fifthly, if imposed on articles of inelastic demand, an indirect tax is fairly elastic. Its proceeds can be increased with a change in the rate of the tax. Lastly, indirect taxes on harmful luxuries such as wine, etc., and on luxuries consumed by the rich will reduce their consumption and may direct the purchasing power of the community towards more beneficial consumption.

The *disadvantages of indirect taxes* far out-weigh their advantages. The foremost objection is on the ground of equity. An indirect tax is inequitable. It is regressive in character. It falls more heavily on the poor than on the rich. In order to be productive, an indirect tax

Disadvantages of indirect taxes. must be levied on necessities. But a tax on necessities is harmful to the interests of the poor. Thus it aggravates inequality; but 'taxation should mitigate and not aggravate inequality in the distribution of income'. A second disadvantage of this method is that the yield from indirect taxes except from necessities is bound to be uncertain. If the tax be high, the demand will shrink and with that the yield.

Lastly, indirect taxes are uneconomical. The cost of collection is fairly heavy. The tax-payer may pay more than the actual tax levied. The producer or the importer generally pays the indirect tax. Some months must elapse before he can get back the tax from the sale of his commodities. He may, and often does charge an interest for the tax which he has advanced. Thus the price of the taxed article may go up by more than the amount of the tax.

Opinion differs as to what portion of the total revenue of the state should be raised from indirect taxes. In old times, these taxes

contributed the major portion, as the machinery of direct taxation was not perfected in those days. As late as the latter part of the 19th century, Gladstone declared that as between two charming sisters, he would like to be impartial between the two types of taxes. In recent times opinion has veered to the point that while indirect taxes should not be given up, the major portion of the revenue should be raised from the direct taxes.

General principles governing the incidence of taxation: Two general propositions governing the incidence of taxation may be laid down. The first is that, other thing being equal, the more elastic the demand of a commodity the more likely is it that the burden of taxation will be upon the seller. The second is that, other things being equal, the more elastic the supply of a commodity, the more likely is it that the burden of taxation will fall on the consumer. When the demand for the commodity is inelastic, the purchaser would not reduce this demand even though the price goes up by the full amount of the tax. In such a case the incidence is on the buyers. But if the demand for the commodity is highly elastic, the purchasers would reduce consumption as soon as the price is raised. Hence the chance is that the burden of the tax will fall on the seller. Similarly, when the supply is elastic, with a rise in price the demand may fall, but with it the supply will also be curtailed. The producer will be in a position to raise the price by the amount of the tax. "The sellers in short try to put the incidence on the buyers by reducing supply, the purchasers try to put on the sellers by reducing demand. The relative ability of the two groups to carry out their objects, with the minimum cost to themselves, determines the results."* In considering the elasticity of supply, we have to take into account the period of time. The supply of a commodity cannot be curtailed in the short period, but in the long run, the supply can be adjusted to the demand. The supply of a commodity is, therefore, inelastic in the short period, though it may be highly elastic in the long period. Hence though the incidence of a tax may be on the seller during the short period, in the long run it may fall on the consumer. The ultimate dependence of the problem of incidence on elasticities of demand and supply may be illustrated by an example. The demand for a commodity having a good number of substitutes is highly elastic. Thus if tea is taxed while coffee, cocoa, and other similar drinks escape taxation, the seller will not be able to raise the price of tea very much; because in that case he will lose customers. The incidence of the tax will be upon the seller.

Incidence of a tax on commodities in general: The former analysis of the general principles governing the incidence of taxation explains the general principles which determine the incidence of taxa-

* Dalton. *Public Finance* P. 54.

tion on commodities, in general. Some other factors regarding incidence remain to be analysed. That analysis is taken up now.

It has already been observed that the importer or home manufacturer who has to pay the import duty or excise duty in a lump sum will try to cover that by charging higher prices. In addition to that he will charge an interest for the tax which he has advanced. So the price may go up by more than the amount of the tax. But how far he will succeed in this attempt depends upon the elasticity of demand for, and the elasticity of supply of the commodity in question.

Where a commodity is produced under conditions of constant cost, the price will go up by the full amount of the tax. No doubt its demand will fall with a rise in price; but as all units are produced at the same cost, whatever the scale of operations, the price will be increased by not more than the amount of the tax.

Where a commodity is produced under conditions of diminishing returns, the levy of a tax will raise its price, *but not by the full amount of the tax*. Suppose 10,000 units are produced at a cost of 5 rupees each. If the amount of the tax is one rupee

Incidence under D. R. per unit, the price of each unit will at first be Rs. 6. But after the imposition of the tax 10,000 units will not be sold, because at the higher price demand will fall off. Suppose the number sold falls to 9,000 units. As the output is diminished, cost per unit will fall to (say) Rs. $4\frac{1}{2}$. With the addition of the tax price becomes Rs. $5\frac{1}{2}$; i.e., price rises by an amount less than the tax.

When the commodity is produced under conditions of increasing returns, the price may rise *by more than the amount of the tax*. Suppose 10,000 units are produced at a cost of 5 rupees each; and 9,000 units are produced at a cost of $5\frac{1}{2}$ rupees each. After the imposition of the tax, if the demand falls from 10,000 units to 9,000 units, the cost of production excluding taxes, will increase to Rs. $5\frac{1}{2}$, and with the addition of the tax, the price

Incidence under I. R. becomes $6\frac{1}{2}$ rupees. Hence it has been advocated that taxes should be imposed on commodities produced under conditions of diminishing returns and bounties should be given to commodities produced under conditions of increasing returns.

There is another possibility. After the imposition of the tax, the competing sellers may combine and may agree to raise the price by more than the amount of the tax. Again if import duties are imposed on all commodities except gold, other imports may diminish, the import of gold may increase. Increase of gold import will raise the prices all round and the price of the taxed commodities may rise by more than the amount of the tax.

Incidence of a tax on land and buildings: The problem of incidence is very complicated. It is better to make a separate study of different aspects of the question. A tax on economic rent falls

upon the rent-receiver, or the landlord. Rent is a surplus above cost of production including normal profit. The tax is paid out of the surplus and cannot be shifted to the occupier, because he earns no surplus except normal profit. But the assumption is here that the landlord is already charging full economic rent, and that the tax is levied on all rent. But if the tax is levied only on the land producing (say) jute, then in order to avoid the tax, the jute lands will be used to produce other crops. The result will be a fall in the production of jute, and its price will rise sufficiently so as to make its production as remunerative as the production of other crops. The incidence will then be upon the consumers of jute.

The incidence of a tax proportional to the quantity of produce depends on the elasticity of demand for the produce. The tax adds to the cost of production of the crops and their price will rise. If the demand is inelastic, the price will rise by the full amount of the tax, because the customers will demand the same amount as before, even at higher prices. The rent would be unaffected, and the incidence is on the consumers of the crops. If the demand is elastic, the higher price will lead to a fall in demand. Production will be curtailed, and marginal lands will go out of cultivation. Rent would thus fall, and the incidence will be upon the landowner.

The incidence of taxes on buildings is more complicated. A part of the tax may be borne not only by the owner, but also by the occupier and even the builder of the house. A part of the tax may be shifted on to the consumers of the articles traded in such a building. When

a business in a locality is patronised by local inhabitants, a part of the tax on the building may be shifted to the consumers through a

little enhancing of prices. The difference in prices may be so little that the consumers may not be willing to take the trouble of going to a distance for obtaining those commodities.

As regards the apportionment of taxes between the occupier and the owner, if the demand for the houses be inelastic (which is generally so) the burden is likely to be borne in a large degree by the occupier. If the demand for houses is not very great in a locality, but the supply is fixed for the time being, the burden of the tax is borne in a greater proportion by the owners. But the owners in such cases will not build any more new houses, and as the demand for houses rises subsequently with the increase in population, the owners will be in a position to shift the tax to the occupiers. Hence in the long run taxes on houses are borne by the occupiers and not by the owners.

Incidence of a tax on monopoly: We have already seen that the monopolist aims at securing the maximum net profit; and that he will produce and sell that amount of output which will equate the marginal revenue with his marginal costs. If the tax is imposed as a lump sum on the profits of the monopolist, this will not induce him to alter the price in any way. The price which brought the maximum

revenue to him before the payment of the tax will still yield the largest revenue even after the payment of the tax. If the tax imposed is a proportional one, levied (say) at the rate of 10 p. c. on monopoly profits, this will leave the price unaltered. His net revenue, after the payment of the tax, will be 90 p. c. of the highest revenue. And this is greater than 90 p. c. of any other amount of revenue. Hence the burden of a proportional income tax will be borne entirely by the monopolist. Next, let us suppose that the income-tax is levied at a progressive rate on the profits of the monopolist. In this case also the burden of the tax will be borne by the monopolist. Monopoly equilibrium will be established at the point where the marginal revenue brought by the last unit of output sold will be equal to the marginal cost of this unit. As the monopolist gains no return on this unit, he pays no tax on it. Thus he will go on producing the same output as before, and the price will also remain the same. When the tax is levied on the output, the highest monopoly revenue is obtained when the price is raised a little. With the addition of the tax, the marginal costs will rise, and if equilibrium is to be maintained, the marginal revenue and the price will also rise. By how much the price will have to rise to bring marginal revenue into equality with marginal cost, will depend on the elasticity of demand. As the price is raised some portion of the tax is thus paid by the consumer. In such a case, the incidence is partly on the monopolist, and partly on the consumer, unless, of course, the supply is absolutely inelastic or the demand is highly elastic.

Incidence of Import and Export duties: Custom duties are obstacles to the mutual exchange of goods between any two nations. The money burden of such an obstacle is divided between the two countries in proportion to the elasticities of their respective demands for each other's goods. The burden varies in direct proportion to the urgencies of demand. If the demand of England for Indian goods is more urgent (*i.e.*, more inelastic) than the latter's demand for English goods, the burden of duties is more likely to be borne in a greater proportion by the consumers in England.

The burden of duties on imports will vary according to the elasticities of demand and supply in the home and foreign countries. In the duty-levying country, the price will rise less and will therefore fall more abroad, the greater and more elastic is the home supply. If a slight rise in the price of the taxed product leads to a much enlarged production in the home country, then the price will rise only by a small amount in the home country, and fall by a small amount in the foreign country. Similarly, if the foreign supply is less elastic and smaller in amount than the home supply, then the price will rise less in the duty-levying country. If the foreign producer is not in a position to decrease his supply either because his investments are specialised to produce the particular goods demanded by the home country, or because he cannot find alternative markets, he will be forced to sell at a lower price than if he could readily change his

supply. Thirdly, if the demand of the home country for the taxed good is very elastic, the price will rise by a small amount in that country. Conversely, if the foreign demand is highly elastic, the price will rise by a greater amount in the importing country.

Prima facie the burden of import duties will be borne by the home consumers, because as the importers are earning only normal profits the imposition of the duty reduces their profits. They will certainly shift to other occupations where there is a greater chance of earning normal profit. The result will be a fall in the supply of such goods. Their prices will rise until the importers can earn normal profit. Usually therefore the incidence of the custom duties is on the home consumer. But there might arise occasions when the foreigners might be made to pay the tax. We have already seen that the price of the taxed goods will rise less in the duty-levying country when the home supply is highly elastic and the foreign supply is

inelastic; or when the home demand is highly elastic and the foreign demand is inelastic. In all these cases, the foreign producer will have to bear the burden of the tax partly or wholly. Similarly, if the amount of the imported goods is very large in relation to the production of the foreign country, and very small in relation to the production of the importing country, the rise in price will be small, and part of the burden of the duty will be borne by a foreigner.

Similarly, in a country which produces raw materials, demand for which is usually inelastic, while it imports only manufactured goods for which the demand is elastic, a part of the export or import duties may be borne by the foreigners. But if the foreign producers have other markets in which they can sell their products, or if they have other competitive sources of supply of raw materials, such duties will not be borne by them. Thus we see that only in rare cases the incidence of such duties is on the foreigners.

Incidence of Income Tax: As regards the incidence of income tax two opposed sets of views are held. One class, *viz.*, the businessmen hold that income tax can be, and is shifted in the form of an addition to price. "When a trader endeavours to ascertain his costs with a view of fixing prices, he often takes into account, at least indirectly, the amount of income tax he will have to pay, and if the market conditions permit, fixes his prices at such a level as would yield to him the minimum net income that he desires to obtain or actually needs."* The opposite view is held by economists. They argue that income tax cannot be shifted, (subject to some exceptions) and cannot enter into prices.

* Evidence of the Association of British Chambers of Commerce before Colwyn Committee. Quoted in the Report, P. 109.

Let us consider the question whether the trader can shift the burden of the income tax on his profits to the consumers in the shape of higher prices.

In the case of the monopolist we know that he has already fixed a price with a view to obtaining the highest monopoly revenue. As that is the best price which he can fix, he cannot get better profit by fixing any other price. Hence he will not gain anything by changing his price.

The competitive trader will find it more difficult to charge higher prices and thus to shift the income tax. He has not the same power as the monopolist to raise his price. He is limited by the existence of competition in three important ways. *First*, his goods are liable to be compared with similar goods with slight difference in quality. *Secondly*, he cannot control the supply of other rivals. They will supply the market if he limits his supply. *Thirdly*, he cannot prevent his competitors from attempting to reduce their costs and undercut him. In a competitive market, price at any time becomes equal to the cost of production of the marginal producer. Since producers at the margin earn no surplus, or get so little profit as not to warrant the imposition of the income tax, no element of income tax can enter into price.

In joint-stock companies, the tax is charged at a flat rate on the profits of the company. The directors of a public company are not under any inducement on personal grounds to shift the tax as are the owners of a private business. Further, though the profits are charged at a flat rate at the source, the shareholders whose total incomes are very great are liable to pay a surtax and others whose incomes are small are liable to get a rebate. Hence the company as a whole consisting of different kinds of shareholders is under no inducement to raise prices. As regards the private firms, the rates vary from firm to firm; hence if the firms have to add income tax to prices, the prices of commodities will differ from firm to firm. But there are some firms which will be in a position to underbid their rivals. The bigger firms cannot allow such a contingency to happen by charging higher prices.

Then foreign competition is to be taken into account. If the home producers charge higher prices, the foreigners will under-sell them and capture the whole market. Of course, the foreign producers may have to pay income taxes in their own countries. But the rate of assessment in different countries are so different, that it is idle to expect that the foreign producers and the home producers will advance their prices to the same level.

Lastly, as the income tax is general, and if it enters into price, the general price level will rise; but a general rise in price level cannot be sustained for long unless it is backed by an inflation of credit and currency. This follows from the quantity theory of money. Other things remaining the same, the general price level cannot rise unless there is an inflation of currency and credit. But there is no

reason to believe that increased income tax will lead to an increase in the amount either of legal tender or bank deposits.

Professor Seligman points out that in a period of rapidly rising prices, the inducement of the marginal producers to cut prices is removed and under those circumstances, the imposition of a tax of any kind will afford the producer an excuse for asking a still higher price. But this is a short-period phenomenon. Another case where the income tax may be added to some extent to the prices is when the retailer derives a sort of monopoly advantage arising from a locality. He may charge a little higher price, and the purchaser may not think it worth while to take the trouble of going to another shop for making daily purchases. But the extent of the rise in price must be very small. Otherwise he will tempt competitors.

Hence it may be concluded that with a few exceptions in the short period the income tax cannot be shifted.

Capitalisation of Taxes: When a tax is levied on the income from any form of durable property, it reduces the net income of the

property. As a result, the value of the property may be reduced. This phenomenon is called the 'capitalisation', or 'amortisation' of taxes.

The amount of the tax is capitalised at the current rate of interest, and the selling value of the property is diminished by the amount of the tax. To take an example, suppose a particular piece of land yields Rs. 100 as rent, and the rate of interest is 5 per cent. The value of the land then will be Rs. 2,000. Suppose that the government imposes a tax of 10 per cent. on the rent of the land. The net rent, after paying taxes, is Rs. 90. The value of the land will now become Rs. 1,800. Future buyers will know that they will have to pay a tax at the rate of 10 per cent. on the rent. They will therefore offer a smaller sum for the land so as to get at least 5 per cent. on their investment. The future buyers will of course be paying the tax every year, but it will not represent any real burden to them as they have paid a smaller sum for the land. "He who was the owner of the land would have to amortise, or write off the value of the tax. The entire capitalised value of the tax will thus be paid by the sellers of the property. Of course it is true that if the tax is remitted after a number of years, it will give a bonus to the present owners of the taxed property, since the value of their property will increase.

Several conditions must be fulfilled before a tax will be capitalised. The tax must be levied on a durable form of property whose supply cannot be adjusted at will to the changing prices of the property. If the property is not durable, its supply will be reduced as a result of a fall in its value. The price will therefore rise, and the burden of the tax will fall on the buyers. The second condition is that tax must be a differential tax in the sense that there are other sources of investment which are not taxed, or which pay taxes at a much lower rate. It is the exclusive non-general character of the tax which makes

capitalisation possible. Suppose that only the land is taxed, and that there is no tax on (say) government securities. The investors may invest their money either in land or in government securities, and they would get 5 per cent. on their money when invested in securities. They would not invest in land unless they can get at least 5 per cent. Hence when a tax of 10 per cent. is imposed on land buyers would pay only Rs. 1,800 for a land which gave a gross rent of Rs. 100 and a rent of Rs. 90 after paying taxes. But if all the available alternative sources of investment are also taxed equally, the buyers of the property will have no option to go elsewhere and get better terms. The tax will not be capitalised under such circumstances. Another feature favouring capitalisation is the *unexpectedness* of the tax. If the tax had been foreseen, it would have been discounted from the very beginning. But if a differential tax is suddenly levied on a durable property, the sellers will have no option but to accept a reduction in the value of their property at the time of the sale.

Thus the tax on any kind of durable property may be capitalised, if it is not universal. A general income tax does not satisfy this requirement, as the tax is general and not exclusive. But that part of the income tax which falls specifically on property incomes, may be capitalised provided of course that part of the tax can be separated from the general income tax. A differential tax on the rent of land, as we have already seen, will be capitalised. In the same way, a tax which falls on the excess profits would be amortised, and the selling value of such businesses will decrease. Suppose that a company was earning profits at the rate of 50 per cent., while the normal profit was 10 per cent. The value of the shares of the first company will be five times that of a company which earned only normal profits. Suppose now a tax is levied, and the excess profits are reduced to 30 per cent. The shares of the former would now be only 3 times higher than those of the latter. Similarly, a tax on monopoly profits would reduce the amount of the profits; the selling value of the monopoly property would thus decrease by the capitalised value of the tax.

"An Old Tax": It has often been argued by many financiers that an old tax is no tax, and that its burden is scarcely felt by anybody in particular. For example, it is often

Diffusion, or Absorption theory of taxes. stated that the Indian salt duty is an old tax, and as such it is not necessary to repeal it.

We must therefore examine the question in more details. There are several arguments which go to support this statement. One we have already noted. An old tax may be capitalised, and though the people are paying the tax year by year, they do not share its burden. But not all old taxes are capitalised. Only if it is a tax on a durable property, and it is a differential tax, it will be capitalised. A second argument is that advanced by the advocates of the diffusion theory. According to the theory, every tax is diffused throughout the community in such a way that it is not possible to determine the exact

incidence of the tax. The ultimate burden is, by diffusion, spread over the whole community. An important writer of this school has compared the levying of taxes with the operation of blood-transfusion. After blood is taken from a particular vein, it alone does not become bloodless. The only result is that all the veins now contain a smaller amount of blood. Similarly with taxes. When a tax is imposed on any particular point the burden is not borne exclusively by that point, but is diffused through all the points. Hence an old tax will get diffused in course of time, and no particular individual will feel specially burdened because of the tax to the exclusion of others.

The diffusion theory of the incidence of taxes is an useless one. Of course there is no doubt that the effects of a particular tax are widely diffused throughout the community as

Criticism. time passes on. But that does not mean that we cannot determine the exact incidence of a tax. An old tax is certainly not a *burdenless* tax. If the Indian salt tax is repealed, the price of salt will fall immediately, and to that extent, therefore, the consumers would gain. The incidence of the tax is therefore clearly only on the consumers of salt. Thus an old tax cannot be said to be a "no tax". Of course it is true that an old tax is one to which people have become accustomed in course of time. Hence once they get accustomed to the payment of the tax, it is regarded as inevitable, and people do not always keenly feel the burden of the tax, as they would do in case of a new tax. In the same sense, it can be said that an old sore is no sore. But certainly it is no great merit of the tax that it is not much felt by the tax-payers. There is also another argument in favour of an old tax. The shifting of all taxes takes time, and much initial disturbance and hardship are caused when tax is first levied, and before it finally settles down. An old tax has already been shifted and has settled down. But all these arguments lend no support to the statement that an old tax is no tax.

CHAPTER 51

PARTICULAR TAXES

Effects of a Tax: The problem of determining the effects of a tax is concerned with the ultimate economic conditions to which a tax gives rise. There is a distinction between the incidence and the effect of a tax. The question of incidence relates to the shouldering of direct money burden, while the question of effect relates to the influence of the tax on the technique of production and distribution of incomes and on the willingness and ability to save. The effect of a tax may be studied under three heads; *viz.*, effects on the people's desire to work and save; effects on the people's capacity to work; and effects on the distribution of economic resources.

Income Tax: Its Effects: The effect of income tax on people's ability to work depends upon the height of the income tax and on the classes of income on which it is levied. The general practice is to exempt incomes below a particular level from the operation of the tax, and then with the increase in the income, the graduation is steepened. After a certain level is reached, the income is further subjected to a super-tax. But the rate of tax is never pitched so high as to confiscate the whole of the income. So far as this exemption limit is determined with reference to the standard of living of the working classes and the lower middle classes the operation of this tax cannot be said to encroach upon the necessities of efficiency. Again on moderate incomes, the levy is very light. Hence *income tax does not affect the standard of living and therefore does not reduce the capacity to work.* Now as to the question of its effects on the capacity to save, every tax reduces the people's capacity to save, so also does income tax. But the total capacity of the nation to save may be quite different from the individual capacity. If the proceeds of the income tax are utilised in paying interest on loans taken by the government, then there is a direct transfer of money from one class of savers to another. This is likely to be saved by the bondholders who are expected to possess the same propensity to consume as the rich taxpayers. Hence the question whether income-tax reduces a nation's capacity to save depends upon the question how is the revenue spent. Further, much of the capital of the country is automatically saved by the joint-stock companies. This part of capital has little connection with the question of people's ability to work and save.

Let us next discuss the more complicated psychological question. How does the income-tax affect people's willingness to work and save?

Income-tax and willingness to work and save. Two extreme views are held. One class of writers suggest that a high rate of income-tax reduces a person's incentive to work and save, as a considerable part of his income is taken away by tax. The other

class hold that this tax strengthens the incentive to save, since it makes a greater accumulation necessary to provide any given net income or capital sum for the future of the tax-payer and his family. The latter argument is strengthened by the consideration that many well-to-do persons desire wealth for the sake of distinction and as evidences of worldly success. The imposition of income-tax will rouse these men to greater activity than before. The question whether people will work more or less depends upon the elasticity of demand of a person for his income. If the demand is elastic, the willingness to work and save will decrease, but if the demand is inelastic the willingness to work and save will, on the other hand, increase. People are generally accustomed to a certain standard of living. Hence their demand for a particular sum must be inelastic. So also if the demand for a particular amount of money in the old age or for one's children be inelastic, saving will not be reduced. Of course, it is a fact that there are certain savers who are on the margin of doubt whether to save or not. The effect of the tax on such a class is bound to be harmful. Now income-tax will not diminish the will to save of joint-stock companies, which are responsible for saving large sums of capital every year. They are not influenced by the same considerations as private individuals. The profits of the company are assessed at a flat rate at the source. The rich shareholders are further assessed at a higher rate on their total incomes. The poorer shareholders, whose incomes are below the exemption level, are granted rebate. The business as a whole does not stand either to gain or to lose. Hence the imposition of the tax will not adversely affect the savings of such businesses.

An observation perhaps would not be out of place here on the question of the effect of the tax on the psychology of the saver. When the people become accustomed to a tax the poignancy of hardship is gradually blunted. The tax might be oppressive to the first generation, but subsequent generations do not feel the effect to the same extent. Income tax when first imposed in England gave rise to discontent throughout the country though the rate was not very high; yet now it is not felt so burdensome, though the rate is higher.

Now we shall consider the effects of income tax on the distribution of economic resources between different employments and localities. This topic can be conveniently discussed under three heads, *vis.*, (1) Income tax, and spending and saving; (2) Income-tax and enterprise; (3) Income-tax and flight of capital.

Income-tax and saving. It is argued that income-tax is a 'differential' tax; it differentiates against savings and gives incentive to spending. As the tax is imposed on every kind of saving, people are induced to spend in preference to saving. As this is undesirable from the standpoint of capital accumulation, Pigou and Fisher advocated that income saved should be totally exempt from income tax. This tax should be levied only on that portion of the income which is spent. The argument that income tax levies a double tax on savings has been

contested by a number of writers including Stamp and Guilleband. When an income is earned, it will be taxed at a particular rate. If the whole of it is spent, there will be no more tax payments. Does it differentiate between spending and saving?

But if a portion is saved and invested, the yield from such savings will also be taxed. This is not double taxation of savings. To levy a tax on the interest on savings does not lead to double taxation of such savings. For interest represents new wealth produced at subsequent periods of time by means of the savings. Hence the same income is never taxed twice, whether it is saved or spent.

Income-tax and enterprise. It is suggested that income-tax reduces the incentive to undertake risky enterprises. The motive in undertaking risky businesses is high profit. If profits are reduced by taxation, no one would undertake such business. Here also the psychological factor is important. No definite judgment can be passed. It is no doubt true that some persons will prefer secure investments to risky ones. There are, on the other hand, others who will go in for more hazardous business for making good the loss made by tax payments.

Dr. Black has argued that the levy of the tax will decrease the expenditure of the rich on luxuries, while the proceeds of the tax will be spent for the benefit of the poor. The manufacture of luxuries requires more uncertainty-bearing than that of commodities required by the poor. Hence the total uncertainty-bearing to be borne by the businessmen will also decline as a result of the levy of the tax.*

Income-tax and flight of capital. There is the possibility that if the income-tax is assessed at a very high rate, capital will flow to foreign countries. But the incomes received from foreign countries are also liable to taxation. The owner can escape taxation only if he is willing to go abroad along with his capital. The possibility of flight of capital is further reduced by the fact that income-tax may also be levied in foreign countries. The same income may be taxed abroad and at home—a case of double taxation. It will discourage foreign investment instead of encouraging it.

Now there is the possibility that no foreign capital will be invested in the country imposing income-tax. But this investment depends on a number of factors, the rates of income-tax at home and abroad, the profitableness of investment, security in the foreign country, etc. All these factors determine the investment. No categorical judgment either way can be passed.

Death Duty: Another important method of direct taxation is the taxation of property passing at death. The examples of this method of taxation are the English Death Duties and the American Inheritance Taxes. In England the Estate Duty varies with the value of the estate left; and the Legacy and Succession Duties vary with

* D. Black. *The Incidence of Income Tax*. P. 223.

the degree of relationship. Nearer relations pay a lower rate of the duty than other distant relatives. In America, inheritance tax varies with the value of the estate left. Leaving aside the question of incidence, let us note the effects of this tax on production as a whole.

As the death duty is liable to be assessed at a high rate only on big inheritances, its effect on the savings of the lower classes of people is not serious. Of course the legatee who is

Death duty and savings. liable to pay the duty will be unable to save so much capital as is spent for the payment of tax. But every high tax is of that type, this is nothing peculiar to death duty. Many persons are of opinion that income tax is better than death duty in one respect, *viz.*, income-tax is paid out of income while death duty is paid out of capital. This argument is clearly wrong. A high tax, whether it is income-tax or death duty, is likely to encroach on capital. Income-tax is paid out of potential capital; while estate duty is paid out of present capital. Further, when death duties are provided for by annual insurance there is no difference between a death duty and an income-tax.

As regards the effect of death duty on the willingness to save, it is less deterrent than income-tax. Death duties are to be paid in

Death duty and willingness to save. the future and not in the near future as in the case of income-tax. We visualise the distant future less clearly than the present or the near future. Further, the payment will be made not by the person saving, but by the legatee. Death duty allows the person to enjoy his wealth during his life time and does not affect the prestige of leaving a large property at death. From all these considerations, it may be concluded that death duty will affect the willingness to save in a less degree than income-tax.

The effect of the death duty on the psychology of the legatee will be perhaps to induce him to work harder. If the exactions are heavy, he may try to make good the encroachment on the estate by the duty. If the legatee however is a distant relative, the prospect of a big legacy is not likely to reduce his will to save and work very much. That legacy is in the nature of a windfall to him, and so long as the estate does not actually reach him, he can scarcely take such a legacy to be a certainty; and reduce his work on that score.

Rignano scheme: In the preceding argument it is assumed that death duty checks to some extent the desire to save. In order to mitigate this evil effect of the duty on the psychology of the saver, Professor Rignano, an Italian writer, has suggested a scheme of death duty. The scheme is briefly as follows. The tax on an inherited property should be graduated according to the number of times it has already changed hands by inheritance. If A left property which he had himself earned to B, B would take (say) two-thirds of the property and the state one-third. Suppose B leaves this property to C with some additional self-earned property. Then C would get one-third

of the property inherited from A and the rest would be taken by the state. But of the personal property of B, two-thirds will go to C and one-third to the state. On the death of C the whole of the property left by A will be confiscated by the state. Thus the whole property goes to the state after it has passed through the hands of (say) two heirs. The assumption underlying the scheme is that a person cares more for his descendants of the first degree than for his remote descendants. The prospect of confiscation of the property after a few generations will not so seriously affect the desire to save, as the prospect of confiscation in the next generation. On the other hand, since B knows that a great part of A's property will be taken away by the state, he will be urged to work and save more in order that his heir C's standard of living may not fall. Thus instead of having had psychological reactions, it may actually increase the desire to work and save.

The scheme is bound to present many administrative difficulties, but we have the weighty opinion of the Board of Inland Revenue in

Some objections against the Rignano scheme.

England that "it would not be impracticable to introduce in the country an effective scheme of death duty taxation on the lines of the Rignano proposal." On grounds of equity, an objection is raised. Suppose B inherits from A Rs. 50,000 invested in shares of companies, and that during B's life-time, those companies fail, and the value of the inherited property becomes nil. But afterwards by his efforts B amasses a considerable fortune. Will then B's property be regarded as inherited and taxed at the higher rate, or will it be regarded as B's self-earned property and taxed at the lower rate? If the first method is adopted, much injustice will result. If the second is adopted, every inheritor will pretend that his inherited property has depreciated in value. Much fraud and evasion will be practised.

Dalton points out that the person, after whose death the property will be wholly confiscated, may totally dissipate the property during his life-time. For that reason he suggests a modification of the plan. An additional charge equal to the amount payable at the next passing should be made on the net amount of the wealth after the ordinary duties have been paid. In exchange for this additional charge, the beneficiary would receive from the state a terminable annuity, and the annuity to be paid by the state would be terminable with the beneficiary's life. "Theoretically the heir would be no worse off in regard to income, but on his death the state would be assured of the capital sum."

Taxation of unearned increment: It has been proposed to tax the unearned increment in land values. The value of a particular land may increase owing to the improvements made by the owner. It may also increase because of the progress of the society without any effort on the part of the owner. As wealth and population increase, the prices of crops go up. This causes a rise in the rent and the value of the

land. This is specially prominent in the case of urban sites. Urban sites in the heart of the city, sites through which new roads have been constructed, and parks opened out,—all increase in value and often to abnormal heights. The growth of towns causes large increases in the value of land in and near about them. These increases in the values of land are just like windfalls; they are not due to the activities of owners. As the increments are more or less due to the activities of the society, it is not inequitable that state should take away such increments from the present owners who have done nothing to contribute to the rise in the prices of land.

The unearned increment is regarded as an ideal tax from several points of view. One has already been mentioned. The owner of the land has done nothing to claim the increment which has been wholly due to social action. There is nothing unfair in imposing tax on an increase of wealth not due to good management, or to foresight, but only to a stroke of good fortune. A second reason is the unexpected character of the increment in land values. Hence the tax will offer no inducement to change the supply of land, or the willingness to work on the part of the owners. It will therefore cause practically no diversion of the economic activities of the people.

The question, however, is more complicated than it appears at first sight. It is quite possible that the future rise in the land values has been foreseen, and has therefore been allowed for in the present buying price of land. The buyer "may have foreseen the possible development into a building site, and may therefore have paid a price above the value of the land in its existing uses because of the chance of its development. Part of the increase in price that he gets then is not a windfall, but accumulated compound interest on his old investment."* If such be the case,—and one cannot be sure that this is not the case,—then the search for the 'unearned' portions of economic rent is almost an impossible task. Another serious difficulty is that it is not always possible to distinguish clearly between the unearned increment, and the additional value created by the improvements made by the owner. Land is not a self-directing factor. The owner must perform some work; he must plan for its use, and make improvements on it. So what he receives from land is partly rent, and partly a composite income consisting of wages, interest and profits. To separate the earned from the unearned increment would tax the skill of the best brains. The Finance Minister, in his zeal to gather the whole of the unearned portions, would inevitably cross the shadowy line between earned and unearned increment, and would not only cause much injustice to the individuals, but would also diminish the productive effort of the people. It has also been argued that the payment of the unearned increment is often necessary to secure the rapid

* Robinson. *Public Finance*. P. 66.

development and the best utilisation of the land resources of a country. The lure of the unearned increment has guided the footsteps of many a pioneer. It has encouraged foresight, and has acted as a force directing the possession of the land into the hands of those best able to use it efficiently. If a tax carries away all these increments there might be deficiency of the incentives to the best development of land.

A more serious objection is that land is but one form of investment to a person. There are 'unearned' portions in every form of income. There is an element of surplus in the high salaries of the Cinema stars, in the interest payments, etc. Why not tax them equally as in the case of land? To put a special tax on land is to discriminate between the different kinds of investment. And this is unjust to the present owners who will have to bear the whole capitalised value of the tax. The tax is inequitable for another reason. If the state takes away the whole unearned increment, is it not just that it should compensate the owners whose lands decrease in value? Is it equitable that the state should adopt, with regard to the existing owners of land, the policy of "heads I win, tails you lose"?

All these difficulties point to the impossibility and inadvisability of taxing the whole of the unearned increment of land values. But there can be no objection if the state takes away by taxes only a part of the unearned increment, and possibly the major portion of any future increment in land values. There is, as Taussig points out, no vested interest in the future. And until the "ideal" tax, free from all blemishes and difficulties, is revealed to us, the tax on the unearned increment may be accepted as the next best.

CHAPTER 52

PUBLIC CREDIT

Public Debt: It has already been mentioned that one of the sources of public income is public debt. It is necessary to point out

the differences between public credit and private credit. In the case of public debts, the state is the debtor, and this fact was important consequences. The state has sovereign power, and can therefore compel its subjects to lend to it. The state, moreover, can not be compelled to pay its debts like an ordinary individual. Secondly, the state lives for ever, and can therefore contract a perpetual debt,—a thing which is impossible for a private individual to do. Thirdly, a state can borrow from an external source, or from an internal source by raising a loan from its subjects, or by printing paper notes and declaring them to be legal tender. The individual can only borrow from an external source. He cannot borrow from himself, or he cannot issue I.O.U.'s and declare them to be legal tender.

There are also fundamental differences between the public debts and private debts. Public debts have far-reaching consequences upon production and distribution of a country. The repayment of a public debt is not made according to judgments derived from private loan operations. It is quite conceivable that the reduction of public debts may not only reduce the national income of a country, but the fiscal position of a state may also deteriorate more by the repayment of a debt than by the taking of further loans.

From the point of view of the citizens, taxation and borrowing possess important differences. The raising of public debts gives the individual a future claim on the government for interest and repayment of the sum borrowed; whereas taxation would not give rise to such claims. Of course, it is true that the tax-payers as a whole have to find the money to pay interest and the capital by contributing larger taxes in the future, it is quite possible that the amount he would receive on account of the interest would exceed the tax-payments. Moreover, he can use the government securities at any time for raising funds. From the point of view of the government, there is this advantage that if the required funds are to be raised by loans, they would be paid with less ill-feeling than if they were to be paid in taxes.

But a more important theoretical justification can be found for public debts. Loans are usually raised by the government during those times when some extraordinary expenditure is to be made, and which cannot be met from the ordinary revenues. Suppose that the government would have to pay a war indemnity, and that the sum to be

paid is distributed among the individual tax-payers. The share assigned to each tax-payer then becomes an extraordinary expenditure for which he must make adequate provision. The individual concerned would perhaps raise loans to cover this extraordinary expenditure. There is no doubt that a single loan raised by the state to pay the indemnity would be far superior to that of a series of private loans. In the first place, public loans could be raised at lower rates of interest than a series of private loans. Secondly, since the public loans have, unlike the private loans, no fixed maturity-date, or a much longer maturity date than the latter, the holders possess a double advantage in that they may either hold on to a stable investment, or they may realise the loan at any time with greater facility than in the case of private loans. "In fact, because of the easy negotiability and the comparative stability in price of governmental securities, the flotation of public loans often renders subsidiary services in the facilitation of credit operations between private individuals."*

Classification of public debts: There is no uniform classification of public debts. They have been classified by different writers into voluntary and forced loans, productive and unproductive loans, funded and unfunded, or floating loans, annuities, lottery loans, etc. Voluntary loans and forced loans explain themselves. In England in the 17th century forced loans were often levied. Public debts have also been classified into productive debts and dead-weight debts. Productive debt is a debt which is fully covered by the possession of assets of equal value. Deadweight debt is that debt for which there are no assets in the hands of the public authorities. The interest on productive debts are paid out of the income of the assets, while the interest on dead-weight debts is paid out of the general revenues of the state.

Mrs. Hicks has classified public debts into three classes, *viz.*, dead-weight debt, passive debt, and active debt. Dead-weight debts are incurred in consequence of expenditures which do not increase the productive powers of the country. Passive debts are those loans which have been spent for purposes that do not yield a money income or increase the productivity of the country. But these debts have been invested in such a way as to yield utilities and enjoyments, such as public buildings, parks, etc. Active debts have been invested in such a way that they yield a money income, or increase the productive power of the country.

At the present moment, the most usual classification is that between funded and unfunded or floating debts. There are three different senses in which these terms have been used. According to Adam Smith, unfunded debts are those debts which have been borrowed by

* De Vitti De Marco. *First Principles of Public Finance*, P. 294, Chap. I of Book V of this book contains a novel and admirable discussion of the utility of public loans.

the government "without assigning or mortgaging any particular fund for the payment of the debt"; while funded debts are those debts against which particular funds or sources of revenue have been pledged. But modern writers do not make such distinction between these two classes of debts. Usually, the expression, 'unfunded debts' is used to mean those loans which are repayable within a comparatively short period, (say) a year. Funded debts are loans repayable after a long period of time. The distinction is of course not clear, for the expressions, 'short period' and 'long period', do not refer to a particular period of time. There are people who would classify debts having a maturity of 3 to 5 years among unfunded debts. Strictly speaking, only debts repayable within a year should be classed as unfunded debts, and debts maturing after a longer period should be regarded as funded debts. Treasury Bills (usually repayable within a maximum period of three months), Ways and Means advances from the Central Bank to the Government (being repayable within the fiscal year) are examples of unfunded or floating debts. It should be noted that in English official language, the terms are used in a special sense. Funded debts are those loans the principal of which the government is not under any obligation to repay at any time, and on which the government undertakes to pay interest only. In other words, funded debts are permanent loans, like the British "consols". Unfunded debts are debts whose principal will be repaid at some fixed date.

The government also borrow money upon *annuities*. The governments borrow in a lump sum at one time, and agree to pay a specified sum for a number of years. A favourite method is that of a life annuity. The government undertakes to pay every year a certain sum of money on account of the repayment of the loan during life time of the creditor. When the annuitant dies, the debt is taken as discharged. Another variant is the *lottery loans*. There are many forms of lottery loans. Prizes may be awarded out of the interest, or principal. In this way, the government may exploit the gambling spirit of the people, and thus make a profit.

Public debts have also been classified into external and internal debts. Internal debts are loans raised from nationals of the country, while external debts are raised in a foreign country. In the case of the former, the payment of interest and the principal means only a redistribution of the national income; the expenditure on this account is simply a transfer expenditure. Whereas in the case of the latter, the payment of interest, etc., means the transfer of wealth to the foreigners.

When to borrow? The former function of public credit is to serve as a supplement to other sources of public revenue. Now the question is,—when should the public authorities take recourse to borrowing?

Practical expediency plays a large part in this matter. There are times when no further money can be raised by taxation without

difficulty. In such cases there is no other alternative but to borrow. Apart from such questions of expediency, there are occasions when the public authorities can take recourse either to borrowing or to taxing for raising a given sum of revenue. Now the problem is to determine the principle according to which public authorities would be guided in choosing between the two alternatives.

In the first place, loans may be contracted in order to cover a deficit resulting from an unforeseen emergency. To obtain revenue through the machinery of taxation requires a certain period of time. If any emergency calls for prompt action there is no other alternative but to borrow. No loans should be contracted to meet the regular recurrence of a deficit in the ordinary revenues. The best method in such a contingency is either to curtail expenditure, or to levy additional taxes to meet the deficit.

In the second place, borrowing is permissible in financing an emergency, the cost of which is so heavy that the proceeds of taxes would not be sufficient to meet the necessary expenditure. As for instance, in conducting a war sufficient revenue could not be raised by taxation alone without damaging the economic system.

A third occasion for borrowing is for embarking on commercial enterprises by the state, which may be productive of much revenue from which interest and depreciation charges can be met. Of course the propriety of such borrowing depends upon the quality of public management. Supposing that public management is as efficient as private management, such undertakings by public authorities are completely justified. Loans contracted by the Government of India for railways or irrigation works are productive in this sense.

Fourthly, the use of public credit is advocated for financing those projects which are of general social advantage. It is advisable to utter a word of warning regarding such expenditures. Building of hospitals, schools and highways may be sometimes urgently necessary. If the outlays on such expenditure are so large that a heavy tax would retard industry and dislocate the smooth business life of the community, then recourse may be had to borrowing. Credit spreads the burden over time and thus lightens it.

War Finance. It is suggested by many able economists that the financing of war should be mainly carried on by taxation. The main arguments that are put forward are as follows:—

First, it is argued that heavy taxation would check extravagant and unnecessary consumption. The rich should be made to pay taxes on a progressive scale, so that the poorer classes would not have to curtail their standard of living.

Loans vs. Taxes.

Secondly, taxation avoids the inflation of credit and prices which loans must bring about when undertaken on a large scale. By taxation there is a transfer of purchasing power from one set of persons to another. So the chances of inflation are as small as possible. Borrowing

on a small scale also does not bring about inflation. But when new purchasing power is created, whether by direct issue of inconvertible paper or by bank credit, prices are raised. A rise in prices reduces the values of all incomes. The result is that inflation is a hidden tax proportioned to income which acts not by reducing the purchasing power in the hands of individuals, but by reducing the value of their incomes. This form of taxation is inequitable because it is regressive. It falls more heavily on the poor than on the rich. To this argument, it may be replied that an all-tax policy cannot avoid inflation entirely. The taxes are paid in many cases by heavy borrowing from the banks. But the extent of inflation will be of course smaller in case of taxation.

Thirdly, this method would offset 'the conscription of man-power by parallel conscription of incomes and capital.' This argument is examined in the discussion of capital levy.

Fourthly, it would avoid the subsequent burden of heavy post-war taxation to pay the debt charges. When the prices will fall, the real burden of debts will increase.

The arguments are of course weighty. But there are serious difficulties in carrying out this policy. The taxing machinery, for example, cannot be suddenly thrown into high gear to meet the immediate needs of war.

Loans in some cases justified.

How do we get extra revenues? The rates of old taxes might be raised. But an increase in the rates of taxes will not always increase the revenue. In matters of taxation as Adam Smith pointed out long ago, two and two do not always make four; they may make simply three. Of course, recourse may be had to new taxes. But this takes time, and the needs of war cannot wait. Some borrowing is therefore essential. But the most serious difficulty is that the expenses of a modern war reach such astronomical figures that any system of taxation which wants to raise the whole of them by taxes would be so burdensome as to crush the people. According to Seligman, to raise even half of the costs of the war, confiscation of all larger incomes and of all business profits would not have sufficed. That loans lead to inflation, and that inflation is a serious evil is not doubted. But inflation has this merit that it makes men work. Heavy taxes would hamper industry, and would dry up the sources of capital just at the time when all the resources of the country should be utilised to the utmost to carry the heavy burden of war.

On the whole it is safe to conclude that some degree of combination of the two methods is the wisest means for financing war or any other serious emergency. The policy to be pursued should be a tax method assisted by a loan method rather than a loan method assisted by a tax method.

Burden of Public Debts—Internal and External: The direct money burden of an external debt is measured by the total amount of payments of interest on the capital made to foreign countries; while the real burden consists in the loss of economic welfare which

these money burdens involve. The direct real burden varies according to the proportion of payment of taxes by different classes of the society. If the payments are mainly made by the rich, then real burden is less heavy than when the payment is mainly made by the poor. An external debt is in the nature of a debt incurred by an individual. The goods which are required to meet the foreign debt go out of the country. The country, just like an individual, becomes poorer to that extent. But if the goods have been provided by the rich, the real burden to the community becomes less heavy.

The indirect burden of the community from the payment of the external debt with interest consists in the check to the productive power of the community, *first*, by the export of a larger quantity of goods; *secondly*, in the check to public expenditure perhaps in some profitable direction.

The case of internal debt is quite different. The payment of internal debts and interest on them involves only a transfer of purchasing power from one group of persons to another. So there is no direct money burden. But the direct real burden is considerable. Taxes are paid by all classes of persons, while loans are given by the comparatively rich. Hence when the internal debts are being repaid, there is a transfer of wealth from the society as a whole to the richer classes. The real burden is therefore considerable in so far as this tends to increase the inequality of incomes.

The indirect burden of the internal debt depends upon the effect of taxation to pay the debts upon people's ability to work and save and upon willingness to work and save. People's ability to save is not much affected; on the whole it increases, because the money paid for loans will be saved. The propensity to consume is less on the part of the lenders to the government than in the case of tax-payers. People's ability to work on the other hand may be much affected because taxes may encroach on the standard of living of many. People's desire to work and save is also considerably reduced by taxation. On the whole the indirect burden of external debts is heavier than that of the internal debts.

There is a further point to be considered in connection with the burden of debts. Large debts are usually contracted during wars, which are generally periods of very high prices. If these loans continue to a period of falling prices, there is a double loss to society. First, so far as the nominal value of the debts is concerned, a greater amount of real wealth is paid at the time of repayment than what was actually borrowed during a period of high prices. Secondly, the interest rate during a period of high prices is generally high and that becomes a very heavy burden during a period of low prices.

Economic effects of public borrowing: The economic effects of public borrowing depend upon several factors. Among them these are of special significance, (a) the volume of the loans and the source

of such loans, (b) the purpose for which the loans are contracted, (c) the rate of interest and (d) the terms and methods of repayment.

The size of the loan is the most significant factor. If the loan is small the sum can be provided by the floating or idle funds of the country. In such a case there is no shrinkage of capital for investment.

The size of the loans and its economic effects. On the other hand if the loan is very large, people may divert their capital from commercial investments to government loans. In so far as this happens, there will be a restriction of future capital outlays, resulting in the fall in the national income and increased unemployment. In much borrowing no new purchasing power is created. All that is done is mere transfer of resources of the community from one direction to another. But if the government takes recourse to creation of new purchasing power it has still more disastrous consequences. Creation of additional purchasing power means inflation and a rise in the general price-level; it leads to inequality among different economic classes which is the inevitable consequence of any sudden dislocation of price-level. Further, the currency may depreciate to a considerable extent so much so, that even by deflation the government may not be able to restore the normal value of the currency.

The second factor of importance is the purpose for which loans are created. If the loans are spent on productive expenditures, then on the whole the loans may not be unremunerative and may be justified. But if they are spent on unproductive expenditures such as wars, etc., such loans are dead-weight burdens on the society. By productive expenditure, the increase in the productive capacity of the country as a whole may more than compensate for the temporary losses undergone by the people. Unproductive expenditure by loans is more wasteful than such expenditure by taxes; because loans carry interest charges, while taxes do not leave such a legacy.

The rate of interest is important in the sense that if the rate be high and the loan large, then a big portion of the annual resources of the country may be devoted merely for the payment of interest. This is quite uneconomical. Big loans are generally contracted during periods of high prices and high rates of interest. During the period of low prices the repayment of such debts with interest becomes very much burdensome.

The full discussion of economic effects of debts is closely interwoven with economic effects of repayment of such debts. One thing should be borne in mind in connection with repayment of debts. The debts are easy of repayment in a period of high prices. During a period of deflation, the real burden of the debt increases and the taxable capacity of the country shrinks. Hence such a period is not suited for the repayment of debts.

Methods of Debt Repayment: Every repayment of debt presupposes a surplus in the budget. If there is a surplus, that surplus might be employed in purchasing the bonds from the market and

destroying them. But this scheme takes matters too easily. Hardly there is any government to-day, which can devote considerable part of its revenue to the repayment of debts. So we shall here discuss some other methods by which the burden of debts can be lightened.

(a) **Sinking Fund:** This method of debt repayment dates back from the time of Pitt. The original meaning of the term was that a fund was accumulated during the life of the debt with a view to redeem the principal out of it at its maturity. The fund was allowed to accumulate at a compound rate of interest. The annual interest on the loan was paid from the revenue of the state. After a few years when the accumulated sum of the sinking fund became equal to the loan made, repayment was effected. But this magic of compound interest often did not agree with the logic of facts. While a sum was to be set apart for creating a sinking fund, the exchequer might have to incur new loans bearing higher rates of interest. Hence such a scheme was highly impracticable.

In modern times the method of redemption by a sinking fund is quite different. Certain funds are earmarked for debt redemption and *they are applied annually to the reduction of some portion of the capital sum of loans.* There is no longer any attempt to carry this fund to the maturity of the debt and to accumulate it at the compound interest. As the capital is gradually reduced year to year, the future interest payments became less heavy and more sums can be directed towards the redemption of the loan.

The method is widely used. But the real problem is that in times of difficulty, the harassed Chancellor may, instead of taking recourse to unpopular measures of taxation, encroach upon the funds set apart for the reduction of debts. Further, a country that is heavily burdened by taxes can at best hope for a very slow reduction of its debts by this method.

(b) **Conversion of Debt:** This method consists in converting a loan bearing a given rate of interest into another bearing a lower rate of interest. It has been pointed out already that debts are generally contracted during a period of high prices when the rate of interest is high. Therefore it is possible in normal times or during times when the market rate of interest is low, to contract another debt at a lower rate and to pay off the former debt. Suppose the current rate of interest on new investments has fallen considerably. The government may then make the following offer to the present holders of loans:— they may accept a new debt-bond bearing a much lower rate of interest, or they may be given the option of repayment at par. If the rate of interest offered on the new loan is slightly higher than the market rate, it is quite possible that the large majority of the existing holders would convert their loans, and very few would ask for repayment. Thus a considerable reduction in the rate of the interest can be secured by this method. Recent conversion operations by the Government of India exemplify the wisdom of this method. The result of conversion

is that the interest charges are considerably reduced—a no mean advantage when the interest charges run to millions of rupees.

But the scope of this method is very limited. The reduction of the rate of interest is possible only when the state enjoys the privilege of repayment at any time. But many debts bear no such terms. Moreover, even if it is possible to convert the loan, a considerable reduction in the rate of interest could hardly be hoped for. And such reduction, it should be noted, would also result in smaller revenues because of the fall in the incomes of the holders. Lastly, this method does not secure any reduction of the capital sum of the loans, but only the annual interest charges are lowered.

(c) **Capital levy:** Another proposal, much discussed during the years just after the first world war, is a proposal for a levy on capital of the country to pay off the huge debts contracted during the war, all at once. A certain minimum level of incomes and wealth should be exempted from the levy. Above that level, individuals should be taxed on a progressive scale. The assessment should be based upon the capital value of the wealth of the individual as distinguished from his income. Such a debt redemption scheme has been described as anticipated death duties. "For just as during the war a law was passed, by which every man of suitable age and physique was deemed to be a soldier, so now in order to dissipate one of the evil legacies of war finance, a law would be passed by which every man of suitable degree of wealth would be deemed to die and to come to life again next morning as the fortunate heir to his own property on payment of an appropriate ransom."* In order to secure a rapid redemption, the period of payment should be short, say two or three years.

The arguments which have been advanced for and against the scheme are too numerous to be discussed here. Only some of the principal arguments are briefly noted.

This principal justification for the scheme is that the sacrifices were unequal during the war. Mainly the working classes fought

during the great war and perished in thousands. Those who survived the war were maimed and crippled for their lives.

The capitalists, on the other hand, taking advantage of the abnormal rise of prices amassed a huge wealth. If the working classes suffered in lives, why should not those who stayed behind, and made huge sums of money be made to suffer in wealth?

Another argument advanced in favour of the levy is that the payment of interest involves a permanent burden on the people. Debts contracted during a period of high prices become heavier afterwards when the price-level is lower. So the debts should be paid back all at once when the prices are still high. Of course, the payment will be

* Dalton. *Public Finance*. P. 203.

extremely painful, but it is better to undergo a surgical operation once for all than to suffer from the disease for ever. The effects of such a levy are not worse than those of recurring annual taxation. Further, the adoption of a scheme of progression would reduce the inequality of sacrifice and it would be nothing but an extension of the present system of death duties and sur-taxes.

On the other hand, the opponents of this scheme hold that the richer classes did not shirk the responsibilities of the war. They also fought the great war and their losses were proportionately as great as those of other classes. Secondly, once it is taken recourse

to, what guarantee is there that it would not be repeated afterwards? Thirdly, it discriminates against those who have lived economically and saved and favours those who have spent. It would discourage saving and drive capital abroad. Fourthly, what should be the basis of assessment on a professional man with large income and no capital, and on a man with small income but with much capital? Practical difficulties of this nature are numerous and often of a serious nature.

The repayment of inter-government debts: In recent times, the question of war debts and reparations has given rise to a new problem in public finance. The question has assumed importance not only because of the huge sums involved, but because it gave rise to

Primary burden of repayment. a theoretical controversy over the problem of "transfer". It is unnecessary in this place to enquire into the origin of these debts. The fact is that the governments of many countries are under an obligation to pay large sums to foreign governments on various accounts. An important feature of the loans is that they are more or less unilateral payments. Now the repayment of these debts presents two problems. *First*, a sum of money has to be raised in the country either by taxation, or by inflation. Of course payment might be made by borrowing in the foreign countries. But this is only postponing the evil day when a much larger sum would have to be raised to pay off the increased volume of foreign loans. Whichever of these methods is adopted, it will only result in a substantial reduction of the real incomes of the people of the country paying the debts. Moreover, if as a result of heavier taxation, the industries are depressed and productivity is checked, it will mean further lowering of the real incomes of the people. If the country uses the method of inflation, there is no doubt that the greatest burden is likely to fall on the shoulders of the poorer classes. This is the primary burden imposed by repayment upon the debtor countries.

The second problem relates to the difficulties of transferring the sum of money thus raised by the debtors into the currencies of the creditor countries. The German Government, for example, would have first to raise the huge sum of money in order to pay the reparations. The next problem is that of transferring the German marks

into the foreign currencies. Here may arise what has been called a "transfer crisis." The actual processes by which German marks would

be converted and transferred finally into foreign currencies, and the burdens they would impose upon the paying country have been the subject-matter of much theoretical controversy.*

In order to pay the reparations, Germany must increase her exports and develop an export surplus, i.e. an excess of exports over imports. According to Lord Keynes, the foreign buyers of the exported goods would not buy more exports unless the prices of the exported goods are lowered. By how

much prices must be lowered to develop the export surplus depends on the elasticity of demand for German goods in foreign countries.

In any case, the barter terms of trade move against Germany. The terms of trade would become still more unfavourable if the prices of import rise. Germany therefore bears a *secondary* burden in addition to the primary burden of repaying the reparations. She will have to give a large quantity of goods to buy any given quantity of imports. Not only will she have to transfer a large portion of her income to the foreigners, but she will also have to pay more in terms of goods to get each unit of the imports. The secondary burden is the "transfer loss."

Against this view it has been argued, notably by Prof. Ohlin that in order to develop an export surplus, prices in Germany need not fall, and hence there need not be any secondary burden imposed by the transfer. According to him, Keynes ignores the shifts in the *buying powers of the two countries* concerned. The payment of reparations means a transfer of purchasing power from Germany to the foreign countries. The Germans have now smaller incomes, and the countries receiving reparations have larger money incomes to spend than before. This means that Germany's demand falls, while the foreign people's demand increases. This will result in larger purchases even at the old price by the foreign countries concerned. It is thus quite possible that an export surplus could be developed without any fall in the prices of German exports. The barter terms of trade need not move against Germany, and there is thus no transfer loss.

The truth probably lies in a middle view. There is no doubt that the payment of reparations will cause a change in the distribution of buying power in the two countries, and this will give rise to some amount of export surplus. There will also be some shifts in prices in the two countries, the terms of trade moving against the paying country, and thus imposing a secondary burden on it. How far the terms of trade need move will depend on a variety of factors,—*viz.*, the elasticity of demand for the exports, the conditions of supply of goods in that country, the extent of the credit restriction necessary to

* Keynes—Ohlin controversy in the *Economic Journal*, 1929.

secure a fall in prices, the height of the tariffs imposed by foreign countries, etc. If the tariffs are progressively increased, then the prices must fall progressively in the paying country and the transfer loss would be correspondingly greater. If the countries receiving payments do not allow their prices and money incomes to rise, then prices and wages must fall more sharply in the paying country, and the burden would correspondingly be higher.

It has sometimes been urged that such payments would also inflict a loss on the creditor countries. The exports of the debtor countries and the imports of the creditors must increase, and this may not be desirable. The goods of the former would compete with those of the latter, not only in the latter's own countries, but also in the foreign markets. The result will be that the industries of the creditor countries will have to face smaller sales both at home and abroad, bringing in depression and unemployment. This need not always be the case. The goods of the debtor countries may not compete with those of the creditor countries. The debtors may, for example, send larger quantities of tea and jute and raw materials, while the creditors might have specialised in manufactures. Or as a result of the increase in the buying power in the creditor countries, demand in these countries will increase, and this may absorb the goods of their industries. But it is quite possible that the industries in the creditor countries may have to suffer all the troubles of dislocation, depression and unemployment. These disadvantages must therefore be deducted from the advantages of receiving large sums of money for nothing. If, however, the payments continue for a long period, the dislocation will be corrected, and the industries of the creditor countries will adjust themselves to the new situation. The disadvantages would thus slowly disappear, and after the initial period of adjustment is over, the payments would mean a real gain to the creditor countries.

CHAPTER 53

SOCIALISM

Throughout this book, we have tried to explain as fully as possible the economic phenomena of the present social order. A large number of people in all countries are, however, dissatisfied with the present social system, and would like to reconstruct it thoroughly. The most important of these proposals of reconstruction is socialism. From a theoretical discussion the doctrines of socialism have assumed great practical importance on account of the establishment of the Soviet Government in Russia. In this chapter we propose to examine some aspects of the socialistic doctrine.

What is Socialism? The writers on socialism are not agreed on the correct definition of socialism. There are, however, certain essential features in most of these definitions. Socialism implies the ownership of the means of production by the society as a whole. Under the capitalist system, the means of production (like land, mines, factories, railways etc.,) are owned by a small section of people who work them with a view to derive the maximum profit for themselves. In a socialistic state, there will be no such private ownership. The state would own the means of production collectively, and operate them for securing the maximum benefit to society. As a result, the vast majority of the people who are now propertyless will no longer be exploited by a small group of capitalists. Dr. Tugan-Baranovsky found the essence of socialism to lie in the fact that under it, the exploitation of any member of the community is impossible. The profit-motive which drives the present economic order will be replaced by the more rational one of maximum welfare for all sections of people. The decision as to what and how much to produce will no longer be decided by considerations of profit. These decisions will be reached on the basis of the usefulness of such things to the society. In the place of a blind working of the productive forces there will be central planning of the economic life of the country. The various branches of production will be developed harmoniously by a Central Planning Authority to serve the best interests of the society as a whole.

Marx and Socialism: The history of socialistic thought can be traced to early days, though it is usual to associate the movement with the name of Karl Marx. In England, for example, Robert Owen conceived the idea of voluntary communities where all property would be held in common, and the proceeds would be shared equally by all the members, long before Karl Marx. In France Charles Fourier held similar ideas. These writers were known as utopian socialists. Modern socialism, however, dates from the writings of Marx, and

Engels who published their famous *Communist Manifesto* in 1848. In that *Manifesto*, Marx and Engels traced the historical rise of the modern capitalistic system. The foundations of Marx's thesis lay in his concept of the "materialistic interpretation of history." All social and political history is the result of the conflict of economic classes. Wherever a society is divided into different economic classes, a conflict of interests is bound to develop between these classes. These conflicts give rise to certain social and political developments which constitute the history of the country. The division of the people into economic classes is the creation of the system of production of the country. There was always some alignment of classes. Thus in ancient times there were slaves, the plebian, the patrician. In the mediæval period, there were Serfs, Vassals, Knights and the feudal Lords. The interests of these classes clashed, and this gave rise to the prevailing social and political changes. The last important change of this type was the emergence of the present capitalist system which developed with the widening of the market and the growth of wealth. The bourgeoisie rose and overthrew the feudal lords. The rise of this class to prominence gave birth to important social and economic changes which were the essence of capitalism.

Capitalism will, however, give rise to conditions which will lead to its overthrow. Under it, the society has been divided into two classes, the capitalist and the wage-earner, and as before there is bound to be great conflicts of interest between these two classes. Marx believed that there were two prominent trends in the growth of capitalism which would lead to its downfall. The first was the gradual concentration of production and income in the hands of a smaller class of people. Large-scale industry would grow up, and would swallow the small industries. The second tendency would be an increase in the number of wage-earners, and the gradual pauperisation of the labouring classes. The concentration of production in a few hands would push a larger and larger portion of the people into the ranks of wage-earners. Not only will the ranks of labour be swelled, but the tendency of the actual social movement would be to rob more and more the lower and poorer classes for the benefit of the higher and richer classes. At last the working classes will rise, and will oust the capitalist from control. All means of production will then be owned by the state, and the government and industry will be carried on in the interests of the working classes. There will then emerge a class-less society whose evolution is inevitable under the present-day conditions.

Such was the Marxian analysis about the course of events. Certain comments may be made at this stage. Growth of capitalism has of course led to the concentration of production. But concentration of industry has not necessarily involved the concentration of ownership. The number of small businessmen is of course decreasing. But the

organisation of the businesses on the joint-stock principle has enabled a larger number of people to have shares in the ownership of giant businesses. Nor has the development of capitalism led to the pauperisation of the labouring classes. The existing inequalities of income are of course glaring. But these have not grown greater since the days of Marx.

Types of Socialism: The natural trend of discussions about the materialistic interpretation of history is that socialism will inevitably come after capitalism. But by the end of the 19th century many socialists became conscious that the tendencies pointed out by Marx were not working out as predicted. In the meantime everywhere the socialists were gaining ground as a political party. Hence arose a division between socialists,—between those who were regarded as evolutionary socialists and those who were called revolutionary socialists. The former adhered to a programme of a gradual reconstruction of society after a peaceful capture of political power and votes in a democracy. The Fabian Socialists of England fall in this class. The second group wanted a violent overthrow of capitalism, and the establishment of worker's control by force.

In the meantime socialistic thought was also falling into different groups. Apart from collectivism which would have state ownership of

Syndicalism. the means of production, there developed a new revolutionary movement which had its origin in France. It came to be known as

Syndicalism, and derived elements from socialism and trade-unionism. Instead of all industry being controlled by the state, each industry would be controlled and managed by syndicates or trade unions. Thus the ownership of industries would rest in local syndicates in the case of local industries, and in national syndicates in the case of national industries. Thus the state would be a loose decentralised federation of more or less independent units. And unlike other socialists, syndicalism placed its reliance upon sporadic strikes, sabotage and the general strike to bring about a collapse of the present system.

Another school of thought developed in England. It aimed to retain the present state which would own all the means of production.

Guild socialism. But the industries would be managed, not by the state as in collectivism, but by industrial guilds, consisting of all workers, technicians and managers. Thus the railways were to be managed by railway guilds. This school is known as guild socialism, and was thus a compromise between syndicalism and collectivism.

The third group called themselves communists, to distinguish themselves from the evolutionary socialists. Communists believed that socialism could be introduced at once, and by force. Unlike the Socialists, they do not believe in political democracy and in universal suffrage, or in the rule of majorities,—though of late Russian com-

munism has introduced these factors in 1936 in that country. The communists want to establish a "dictatorship of the proletariat" through violent revolutions. The method of distribution of incomes is also different to some extent from that in other kinds of socialism. The main formula is that "from each according to his ability, and to each according to his need."

Communism.

Soviet Russia: It is necessary at this stage to describe the communistic system introduced in Russia. On coming to power in 1917, the communists proceeded immediately to nationalise the land. But the peasants were granted "possession" over their holdings, subject to the condition that the surplus produce was to be given to the state. By 1919, all the mines, factories, banks, transport and foreign trade were completely nationalised. But this was soon followed by certain difficulties. The land policy discouraged production on the one hand and resulted in secret dealings on the other. The government was unable to secure much machinery and rail road equipment from foreign countries. It also failed to secure the co-operation of the former managers and technical experts of the factories. The breakdown of the productive system was so great that for the time being the Russian government was forced to retrace its steps to some extent. The N. E. P. (New Economic Policy) was adopted. The peasants were granted the right to dispose of their surplus products. There was also a partial return to private enterprise in small-scale manufacturing and in domestic trade. "Concessions" were granted to foreign concerns or even to "mixed" concerns in certain special spheres (as in the case of Lena gold fields). This policy remained in force till 1928, from which year a big change in policy ensued. There began an era of economic planning, and large-scale industrial and agricultural development. A five-year plan was adopted, and special attention was devoted to the development of the heavy industries, coal, electrical energy, machinery and tractors. A new agricultural policy in the shape of collectivisation of farms was also introduced in 1929. Land and the animals were placed under the control of big collective farms, which were supplied with tractors and other agricultural machines. Many peasants resisted the introduction of this policy, but it was carried out ruthlessly, causing a good deal of suffering. A second five-year plan was adopted in 1933, and it paid more attention to the development of light, manufacturing industries and production of consumer's goods. In this way, the initial shortage of goods was made good, and by 1935, the system of rationing was abolished.

It should be noted that in Russia the principle of equality of incomes has not been adopted in fixing wage-rates. Payment is made according to the social value (*i.e.*, scarcity) of a particular group of labour, or according to the technical skill required in any job.

While the average workers are paid modest salaries to maintain a national minimum standard, the outstanding men and women are paid much higher salaries. The extent of inequality

Inequality of incomes. of incomes prevalent in the U. S. S. R. is often as great as that in a capitalist country.

It has been urged by many that this is against the strict communistic principle. But this is not correct. Marx pointed out that differences of wages, proportional to differences in the quantity and quality of work, would exist in the first stages of socialism. In the second stage, when production will increase so much as to provide a sufficiency for all, and when classes have been abolished long enough for people to be changed, the communist principle of "to each according to his needs" will be introduced. But in spite of the existence of such inequality of incomes, the system is claimed to be superior to the present one as there are no property or unearned incomes, and nobody will get any income unless he works.

Value in a Socialistic State: A few years back a group of economists raised the problem of valuation in a socialistic economy. Are the general conclusions regarding value and distribution, deduced by the economists, applicable to the case of a socialistic economy? Under a competitive system, the producers will be guided by the prices prevailing in the markets for goods and factors. Each will produce upto the point at which his marginal costs are equal to the price. The different factors will also be distributed among the industries in such a way that their marginal net products are equal to the average rates of remuneration. And provided there are no divergences between the marginal private net product and the marginal social net product, this would secure the maximum satisfaction from the available resources. But under socialism, as Prof. Mises* pointed out, there is no free market in the factors of production as these will be owned or employed by the state. In the absence of free markets for factors of production, their prices cannot be determined. Without such free pricing, there can be no rational calculation of costs and prices. Hence it would be impossible for a socialist state to maximise production.

This challenge was later taken up by Dr. H. D. Dickinson, Lange and Taylor and a host of other writers. Before taking up the discussion of their solutions, we may point out that the capitalist system does not always maximise satisfaction or output. The writings of Marshall and Pigou have long pointed out the existence of many divergences between the marginal social net product and the marginal private net product. Moreover, market prices are not always fair guides to production. The prices which prevail under the competitive system are based upon the demands of the consumers at the existing level of incomes. Hence they tend to distort the productive system heavily in the direction of satisfying the frivolous wants of the richer

* *Socialism* by Ludwig Von Mises.

classes to the exclusion of the more pressing needs of the poor. There is also a good deal of waste and inefficiency under capitalism. The question of valuation in a socialistic economy was considered as early as 1908 by Barone, an Italian economist. He was of opinion that in principle the accounting prices of a socialistic economy were economically as significant as the market prices of a capitalist economy. By means of a series of simultaneous equations, he proved that a socialistic economy could make a rational allocation of resources in substantially the same way as capitalism. Similar conclusions have been reached by Dickinson, Oscar Lange, Durbin and others. "Pricing is independent of any particular organisation. Mises has confused the essence of the pricing process with the particular form under which it is manifested in the capitalist economy." The absence of a free market in a socialistic economy does not introduce any fundamental difficulty. Prices may be assumed for accounting purposes for the allocation of resources. A provisional valuation in terms of money may be imputed to each factor. For example, the Central Planning Authority may start with prices already given in the market much in the same way as capitalists do. That Authority may then proceed, by the use of statistically determined demand and supply schedules and on the basis of trial and error, arrive at the correct accounting prices. If it happens that the quantity demanded of a commodity is not equal to that supplied, the price and output of that article have to be changed. There will be a new set of prices, and alterations in the quantities produced. By this process of trial and error, a point of equilibrium will be reached when the quantity demanded will be equal to that supplied. This is exactly the way in which prices are actually determined in a competitive economy.

Merits: Not only is rational allocation possible in a socialistic economy, it is also superior to the competitive system in a number of points. First, as the Central Planning Authority has a greater knowledge about the supply and demand positions than a number of isolated entrepreneurs, it can reach the correct equilibrium prices more quickly than the latter.

Merits of a socialist system. Secondly, a socialistic system, by providing for a better distribution of incomes, will tend to secure a greater satisfaction of wants than is possible under the present order. It will not follow the whims of the rich few, but will devote the resources to satisfy the more urgent needs of the majority of the people. It will thus derive a larger amount of satisfaction from a given output. Lastly, under capitalism, the system of production is anarchic, and periodic crisis is bound to occur. But by taking a long-range view-point, the socialistic economy can control the fluctuations of the trade cycles much better than the present order. It will also tend to reduce those risks and uncertainties which exist in the present society owing to unbridled competition. It would avoid the wastes of the competitive system.

Against these advantages of a socialist system must be set certain inherent difficulties. Prof. Pigou, after accepting the contention that in principle the optimum allocation of resources can be made in a socialistic economy on the basis of what he calls "accounting cost", pointed out that in practice it would mean great difficulties. The solution of this problem would require the genius of a group of supermen. Secondly, will the socialistic system be able to maintain its productive organisation to the highest pitch of efficiency? In a competitive system, the fear of loss or the hope of pecuniary gain serves to keep the entrepreneurs alert and efficient. But in a socialistic economy the manager of a production unit will get a fixed remuneration. Any loss incurred in his factory will be borne by the community. Hence he need not be very careful in the management of his factory. This factor may prove to be a source of weakness in a socialistic system. But it should be recognised that Soviet Russia had apparently solved this difficulty by introducing other incentives to work such as the spirit of emulation, the desire for public honour and the dread of public censure, etc.

Another difficulty will be the determination of the correct rate of capital accumulation. The decision of the Central Planning Authority is bound to be arbitrary, and the economy may suffer from a wrong rate of capital accumulation in the long run. It is of course true that a rate of interest as determined under a capitalist economy on the basis of the consumers' preferences for liquidity may not always prove superior, from the strict economic standpoint, to one determined by the Planning Authority. A fourth difficulty will be the selection of the best men for the various posts. The capitalist system is of course not the ideal for this purpose. But it at least provides a rough and ready way of throwing out the fittest men. This is no doubt imperfect. But the socialists have not proposed a better method of adjusting capacity to task, and of detecting the natural leaders of men. Lastly, the real danger lies in the bureaucratic management of the economic life under socialism.

But to point out the difficulties of a socialist economy is not to argue that socialism is "impossible." The real alternative is not between the ideal capitalism and blind socialism. We know that the present system has often failed to achieve in practice what its apologists consider it to be potentially capable of achieving. Hence the only valid comparison is between an imperfectly competitive economy which has to be propped up by all sorts of interventionist measures and a socialistic system with all its attendant difficulties. And the comparison is not always in favour of the former.

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